A Controlled Study of Detoxification Alternatives for Homeless Alcoholics

by

Susan Sadd
Douglas W. Young

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Vera Institute of Justice
377 Broadway
New York, New York 10013

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Progress in alcoholism treatment is clearly dependent upon bridging the gap that exists between researchers and practitioners in this field. We feel it is fortuitous, therefore, that the idea for this research came from Ed Geffner, the Executive Director of the Manhattan Bowery Corporation, who has spent most of the past decade in the delivery of service to the Bowery community. The project owes its success to Ed and others like him: persons engaged in treatment delivery who recognize the value of research and have the courage to submit programmatic decisions to empirical tests. Henry Pinsker and George Payne played this role at Beth Israel Medical Center, and we are most appreciative of the commitment they showed us throughout the research. Carolyn White, the former Director of Alcoholism Services for the Bowery Residents Committee played a special role in this regard, providing her support in a time of need. It was readily apparent that, for both Ed and Carolyn the bottom line was, "can the research be of potential benefit to the Bowery alcoholic?" For this attitude, we are grateful.

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CHAPTER I:
INTRODUCTION

Twenty years ago, public inebriates withdrawing from alcohol did so in the drunk tanks of America's jails. That "detoxification system" had long been recognized as inhumane and non-rehabilitative. In the late 1960's, as jail populations swelled in the nation's metropolitan areas, the drunk tank came to be seen as unneccessarily burdensome to the criminal justice system. The St. Louis Diagnostic and Detoxification Center, established in 1966, followed a year later by the Manhattan Bowery Project in New York City, demonstrated that public inebriates would voluntarily commit themselves to a medically supervised detoxification facility. In these programs, clients received drugs to ease them through the withdrawal period, a physical exam and necessary medical treatment, and counseling designed to introduce them to alcoholism treatment. As a result of these successful pilot programs, jail populations were sharply reduced, and the police, prosecutorial and judicial resources which had been devoted to the criminal processing of alcoholics could be deployed to problems of a more seriously criminal character. The capacity to treat public inebriates more effectively led, over the next decade, to widespread de-criminalization of public intoxificiation and the creation of alternative detoxification programs across the country.

With the flourishing of these programs for public inebriates came a greater interest in alternative modes of detoxification including the "social setting" approach to the management of

withdrawal. Borrowed from programs developed in Eastern Europe and Canada, this non-medical model offers a warm, supportive environment within which to manage the symptoms of withdrawal and to encourage continuation in post-detoxification alcoholism treatment. Back-up medical facilities are utilized by these programs only in the atypical occurrence of withdrawal seizures and other severe symptoms.

There is little question regarding the improvements that medical and social setting detoxification programs offer over jails; they are safer and provide their clients with an introduction to formal alcoholism treatment. There are questions, however, about the comparative advantages of these two types of programs. Considerable controversy has been generated over the suggestion that the social setting model can serve as a safe and effective alternative to traditional medical detoxification. Proponents of this view point out that non-medical programs are much cheaper to operate than medical models, a consideration whose importance has been heightened by growing demands to cut health-care costs. In addition, it is argued that the "stark, institutionalized" medical environment actually exacerbates withdrawal symptoms, and that most withdrawal experiences are relatively brief and benign. Furthermore, it has been suggested that the use of sedative withdrawal medication is potentially harmful to the recovery process, implying to the alcoholic that drug problems are best treated with more drugs.

Over the last 15 years, evidence in support of these arguments has come from evaluations of individual non-medical programs. With regard to program safety, these evaluations consistently report that fewer than 10% of their program clients have required medical care for withdrawal-related problems during their stay. Unfortunately, none of these studies has utilized a controlled experimental design. Typically the clients in the study samples have "self-selected" to enter the program or have been referred because they are judged appropriate; in some cases a screening procedure has been utilized at admission, and a proportion of the potential sample systematically excluded. These procedures have made it easy for critics of non-medical detoxification to question the validity of the safety outcomes reported in such research. In many ways, of course, these critics have an advantage; medical detoxification treatment is unquestionably safe, and withdrawal medication clearly suppresses uncomfortable and dangerous symptoms. Even if medication isn't necessary in the majority of cases, medical proponents stress the potential dangers of alcohol withdrawal (advanced symptoms such as delirium tremens, while rare, are life-threatening) and the difficulty of anticipating symptomatology in individual cases.

The hypothesis that social setting programs are more rehabilitative -- that their clients are more likely to continue in treatment and ultimately have a greater chance for recovery -- while theoretically more parsimonious than the safety argument, also remains open to debate. Most of the studies in this area

have provided data on acceptance of referrals for post-detoxification treatment (often limited to the client's self-reported intention) and/or recidivism (usually focusing only on readmission to a single program). These studies have also tended to have the design limitations noted earlier. In terms of rehabilitation outcomes, research has revealed a general lack of effectiveness for all programs, although a few studies have shown non-medical programs to perform better than medical programs in getting clients to accept referrals and stay in treatment.

With questions about non-medical detoxification's safety and efficacy still unresolved, it is surprising that these issues no longer command the attention in the literature that they did in the 1970's. Instead, proponents of the two modalities appear to have put aside the debate, and each pursued their own course. Non-medical detoxification has become an accepted alternative, particularly in the western part of the U.S. (and especially in California), where social setting facilities account for 55% of all units providing detoxification services. In other parts of the country, social setting programs appear to have formed the basis of a distinct service delivery network. Most often housed in freestanding facilities and located in working- and lower-class urban or rural areas, these programs serve an alcoholic population that has less ready access to traditional hospital-based detoxification facilities.

At the same time, the medical model remains essentially unchanged and continues to dominate the treatment field. The

most recent national survey of alcoholism treatment services indicates that approximately two-thirds of all programs providing alcohol detoxification are medical units. The predominance of traditional inpatient medical treatment is evident in the medical literature, where clinical trials of new withdrawal medications and summaries of preferred drug treatments remain common. The degree to which non-medical models have been accepted appears largely the result of their ability to meet an increasing demand for low-cost treatment, especially for the public inebriate population. Despite this cost-savings, there is little evidence to indicate that the "mainstream" of alcoholism service delivery has accepted the non-medical model as a safe and effective alternative to medical detoxification.

The current research. The absence of controlled research on the safety of non-medical programs is undoubtedly one reason for this lack of acceptance. Recognizing this gap, the Vera Institute proposed a study of detoxification programs for public inebriates, and the research was funded by the National Institute on Alcohol Abuse and Alcoholism. The research was designed to address some of the disadvantages of the earlier studies. Using a controlled design, subjects entering detoxification facilities over an 11-month period were randomly assigned to three treatment modalities, a freestanding medical detoxification program, a hospital-based medical program, and a non-medical program. Data were collected on subjects during their stay in these programs, with the intent of comparing each site's safety and

rehabilitation efficacy. With regard to safety, the research was designed to address such questions as:

-- Is non-medical detoxification treatment more likely than medical to be associated with severe withdrawal symptomatology (abnormal vital signs, seizures, etc.)?

-- Is either of these modalities more likely to be subjectively viewed by its clients as making the detoxification easier, less stressful?

-- Are the medical programs (and particularly the hospital-based program) better able to identify and care for other medical conditions (in addition to withdrawal) the client may have?

With regard to rehabilitation issues, the research attempted to answer the following:

-- Are clients treated in the medical programs more likely to complete detoxification?

-- Are clients treated in the non-medical programs more likely to obtain and accept post-detoxification referrals? And are there differences in the types of referrals made by these programs?

-- Are clients treated in particular modalities more likely to be readmitted for detoxification within a four-month follow-up period?

In addition to these central programmatic issues, the research provided a unique opportunity to investigate other matters of interest. For example, since the 1960's little descriptive information has been gathered on public inebriates (now more properly referred to as homeless alcoholics). This research afforded a substantial descriptive database, representative of the homeless alcoholic population in New York City. A survey of detoxification facilities throughout the City was also conducted as part of this study; this survey ranges from modality and client data to questions of administrators

concerning the changing needs of the City's homeless alcoholic population. The local survey results were compared with the study sites, so that these sites could be placed in a "local context."

The comparison of treatments and outcomes within the medical and non-medical rubrics was an unexpected opportunity presented by this research. As described in the Facilities and Implementation chapters, it became readily evident that the two medical programs and two non-medical programs were quite different from one another; this contrasts with the more generic descriptions that have appeared in the literature comparing non-medical and medical modalities. Finally, the research also addresses the inaccessibility of hospital-based treatment to the homeless alcoholic population, and implications of this for their use of detoxification facilities. This is an issue of very considerable importance to medical and social service planners in metropolitan areas.

While there has been prior research in this area, the lack of a true experimental design limits the generalizability of the findings. The current research was designed to improve upon these earlier studies. With respect to the severity of withdrawal, the results of the study support the findings of earlier, non-controlled research that non-medical detoxification is safe. It is also clear, however, that hospital-based medical detoxification facilities identify more ancillary medical problems among their clients than do either freestanding medical

or non-medical facilities. With regard to rehabilitation efficacy, the research reveals that certain types of post-detoxification referrals were more successfully implemented and completed; however, there was no evidence to suggest any referral type was associated with a lower probability of readmission to detoxification.

The general condition of homeless alcoholics is surely better since the drunk tank was replaced by a network of detoxification services. Moreover, as this research demonstrates, the vast majority of these people can detoxify quite safely, if not as comfortably, at non-medical detoxification centers. But neither the social setting nor the medical modality can claim much success in moving such people toward sobriety. Furthermore, homeless alcoholics continue to experience both physical and social needs for which public services are either inadequate, inaccessible or both. Thus, the pressing questions today no longer concern the relative safety of detoxification modalites, but the nature and structure of services required by this extraordinarily needy population. There is much in this research study that informs policy development around this issue. A service system that can address the medical, shelter and social service needs of public inebriates in an adequate and coordinated fashion may provide them with enough stability to pursue sobriety seriously. That is the end toward which the answers, suggestions and additional questions provided by this research are directed.

CHAPTER II:
REVIEW OF THE LITERATURE

The literature reviewed here reflects the diversity of issues addressed by this research. The chapter begins with a summary of what is known about alcohol withdrawal, and an overview of the medical model that has traditionally been used to treat this condition. The historical development of non-medical alternatives, and in particular the "social setting" model first introduced in this country in the early 1970's, is then traced in the literature. Special attention is paid to the handful of recent studies that have attempted to assess the safety of non-medical programs using uncontrolled designs. Research pertaining to the public inebriate population's use of alcoholism services, and their treatment outcomes is also considered.

Alcohol withdrawal and medical detoxification. Alcohol withdrawal is the body's response to a cessation of alcohol intake after a long period of consumption. Medically termed the alcohol withdrawal syndrome, this condition is characterized by:

> behavioral features that include anxiety, agitation, and irritability, and neurologic features that include tremor, hallucinations, and a reduction of the patient's seizure threshold. Most patients also have abnormalities of body temperature, blood pressure, and heart rate. (Kraus et al., 1985, p. 905)

The treatment of alcohol withdrawal is termed detoxification, and while it is not unusual for a chronic alcoholic to occasionally experience withdrawal without assistance (commonly called "self-detox"), this treatment usually takes place in a specialized

setting, most typically a hospital. With the exception of formal communication among physicians, terms like withdrawal and detoxification (or just "detox") are often used interchangeably; to "go through withdrawal" or to "detoxify" usually means the same thing, though the latter has a more institutional, formal connotation.

Much more is known about the symptomatology and clinical management of alcohol withdrawal than the physiological mechanisms underlying its etiology. In general terms, withdrawal is viewed as an adaptation of the central nervous system (CNS) to the depressant effect of alcohol (Lerner & Fallon, 1985). Prolonged exposure to alcohol is thought to lead to various depressive changes in neuronal membranes and neurotransmitters; when alcohol is withdrawn after this exposure, the CNS experiences "functional disturbances opposite in direction to those originally produced by intoxication." These include increased neuronal excitability, increased spontaneous and evoked activity, and ultimately "hyperacuity of all sensory modalities, hyperactivity of reflexes, muscular tension and tremor," and the range of symptomatology described above (Sellers & Kalant, 1982, pp. 148-149).

The actual withdrawal reaction varies considerably, both in its severity and duration. Frequent prior consumption of alcohol is a precondition for its appearance, and the severity of the withdrawal is positively related to the dose, duration, and frequency of the prior exposure. Initial symptoms appear from 5

to 10 hours after cessation of alcohol consumption, and include tremor, irritability and restlessness, increased blood pressure and heart rate. The withdrawal syndrome can develop into a more severe form, including disorientation, seizures, and hallucinations. The great majority of all persons experiencing withdrawal, however, do not develop severe symptoms; mild withdrawal reaches its most severe stage between 24 and 36 hours, and typically ends within 48 hours after the last exposure to alcohol. If they develop, severe symptoms tend to appear two to three days into the withdrawal period, peak between the third and fourth days, and the withdrawal can last as long as six days. Moderately severe symptoms occur in 15-20% of all cases, and the most severe form of withdrawal, known as delirium tremens, occurs in about 5% of all cases (Sellers & Kalant, 1982; Lerner & Fallon, 1985).

A variety of reasons are given for the predominant view that alcohol withdrawal must be managed in a medical environment, and with the administration of medication. The most cogent of these is that the syndrome is potentially dangerous, and even life-threatening in rare cases of advanced delirium tremens (Kissin & Begleiter, 1977). This argument is strengthened by the well-documented success of drug treatments that prevent the progression of the syndrome into more severe forms. The fact that it is not unusual for withdrawal symptoms to be exacerbated by a concurrent medical condition (such as trauma, infections, or gastritis) has also been given as a reason for medical

intervention (Favazza, 1982). Finally, there are historical precedents for this approach. The last half-century has seen a concerted effort to replace the moralistic view of alcoholism with the disease concept, and the promotion of medical treatments for alcoholism has characterized this movement. The continuing emphasis on the physiological aspects of alcoholism -- physical addiction, genetic etiology, etc. -- has encouraged the presumption that medical environments are necessary for treatment of the disorder.

In contrast to reports found in journals and edited volumes specifically devoted to the field of alcoholism, the literature on detoxification appearing in medical journals and books has been almost exclusively concerned with clinical trials of new drugs, or summary descriptions of symptomatology and current drug treatment. The most recent summaries (e.g., Favazza, 1982; Sellers & Kalant, 1976) conclude that the administration of benzodiazepines, in combination with multivitamins is the preferred treatment. Administered in large doses on the first day of treatment, and then progressively decreased through the fourth or fifth day, such benzodiazepines as chlordiazepoxide (Librium) and diazepam (Valium) are very successful in controlling symptoms associated with withdrawal. However, over 140 drugs have been tested for alcohol detoxification treatment (Sellers & Kalant, 1982), and new trials appear regularly in the journals (e.g., Kraus et al., 1985). In this context, the use of benzodiazepines is relatively new, and various barbiturates are

still administered in many detoxification facilities. Indeed, in the current study, phenobarbital was the drug of choice in both medical facilities. Phenobarbital has been shown to be effective in controlling symptoms (and is markedly less expensive than the benzodiazepines); Sellers and Kalant's (1982, p. 159) critique of this drug concerns its "abuse and dependence liability and narrow margin of safety."

Two rare and early challenges to hospital-based, drug-oriented detoxification appeared in the medical literature in the late 1960's. Victor (1966), in an extensive review of previous studies on withdrawal and its treatment, concluded that physicians consistently tended to diagnose delirium tremens (and prescribe medication) when symptoms merely indicated a mild form of the withdrawal syndrome. Moreover, his review revealed an alarming dearth of published data to support claims about the value of withdrawal medication. Laying the groundwork for an alternative approach to detoxification, Victor stressed the conclusion that severe withdrawal was "relatively rare," and that a comfortable environment and supportive care could help control withdrawal symptomatology.

Simpson et al. (1968) carried this work further by contrasting the experience of a sample of cases admitted to a hospital detoxification facility to those who went through withdrawal at a specialized treatment and rehabilitation center. These investigators observed that staff in the hospital tended to overreact to mild withdrawal symptoms, viewing tremors and

restlessness as danger signals of "incipient" delirium tremens. The treatment facility staff, on the other hand, were trained to make finer distinctions among withdrawal symptomatology, and to respond to mild symptoms with reassurance and support. Considerably fewer cases of severe withdrawal were observed at the treatment center, suggesting to Simpson et al. that the occurrence of delirium tremens was "iatrogenic and environmental," and that medication was largely unnecessary. The staff of the treatment center, in fact, found medication harmful in the sense of causing disorientation in patients, and in giving them the impression that drugs were a necessary part of the recovery process.

The social setting alternative. In part due to these early contributions, the medical profession has come to recognize the value of a quiet, caring environment for persons undergoing alcohol withdrawal. But the suggestion that such supportive care be the sine qua non of detoxification was greeted with considerable controversy when it was first introduced in this country in the early 1970's. Borrowing heavily from a program model developed by the Addiction Research Foundation in Toronto, O'Briant and his colleagues are credited with starting the first "social setting detoxification program" in the U.S. (in California), and with disseminating and promoting this model to alcoholism professionals (1974/75; 1976/77). In an excellent review of the development of non-medical detoxification alternatives, DenHartog (1982) describes the original Toronto model as:

> a re-orientation to the nature of the problem, a re-definition of care, and the re-design of the facility's staffing pattern. Immediate medical care is considered the exception rather than the rule. Seizures and delirium tremens can be avoided without resorting to drugs..... Design the environment in a manner which will increase the resident's participation, and by creating feelings of warmth and acceptance, maximize interaction between residents and peers. Reduce undesirable stimulation, fear of the unknown, and the expectation of some kind of medical catastrophe, and the participant will respond with fewer negative outcomes than in an austere environment where one is expected to be sick.... The functions of the detox center become that of a resource, stimulating the desire for rehabilitation but maintaining the sense of individual responsibility for change. The role of the staff is, first and foremost, that of triage, not of treatment. (p. 15)

Environment is clearly the key in the social setting model, both in controlling symptoms and in encouraging motivation for recovery and pursuing further treatment.

The development of a detoxification model that, in addition to management of withdrawal, stressed rehabilitation was in part a response to a major public policy concern of that era, care for public inebriates. Alternatives to "drunk tank" incarceration of public inebriates was initially considered in the early 1960's, and the Vera Institute's Manhattan Bowery Project, which opened in 1967, was one of the first attempts at diverting these cases from jails and the courts, through the provision of medical detoxification in a non-hospital setting. The continued documentation of these programs as successful diversion alternatives led to their proliferation, and to the creation of the Uniform Alcoholism and Intoxication Treatment Act of 1970. The Uniform Act, subsequently adopted by a majority of the states, decriminalizes public intoxication and places the burden

of care for public inebriates on the health care system. For the first time, public inebriates have been brought into the alcoholism treatment network and have been provided with immeasurably safer and more humane alternatives to jail.

With this change in responsibility for care came a considerable demand for cost-efficient treatment modalities. Hospital detoxification programs could not handle (nor did they find desirable) this new treatment population. Moreover, there was widespread recognition that programs for public inebriates tended to be little more than "revolving doors," and models that stressed rehabilitation were considered welcome alternatives. (The extent to which these programs have actually been successful in terms of rehabilitation outcomes is discussed below.) It is in this climate, then, that social setting programs developed and flourished. The ceaseless pressures for low-cost programs have continued to foster interest in non-medical detoxification alternatives, and social setting programs are now well entrenched in the national treatment scene, accounting for approximately one-third of all detoxification programs (NDATUS, 1983).

The safety of non-medical programs. Rather than basing detoxification programming on the potential of dangerous medical conditions, non-medical programs are designed with the recognition that such conditions are atypical in alcohol withdrawal. In assessing the safety of these programs, the "bottom line" becomes the degree to which medical intervention is necessary for program clients, and the program's ability to

recognize that need and link clients to medical care. While the literature reveals considerable interest concerning safety outcomes (e.g., Pattison, 1977; Pavloff, 1973; Schuckit, 1979), data-based investigations have appeared infrequently, and have been surprisingly crude in terms of methodology. Such studies are as likely to appear as unpublished reports (see DenHartog, 1982) and in foreign journals (Olbrich, 1979; Rossall, 1978), as in American journals (Garber et al., 1974; Sparadeo et al., 1982), and virtually all of them are simple, uncontrolled program evaluations.

The findings from the first two years of O'Briant's California program were reported to be "very similar" to those obtained in Toronto, where only five percent of all admissions required immediate medical care. While they did not provide actual data in their program assessment, O'Briant & Lennard (1973) contended that most of their clients experienced relatively mild withdrawal symptoms, and that seizures occurred in lower proportions than are typically found in hospital programs. A somewhat more thorough test of safety outcomes was reported a few years later in an assessment of a similar program implemented in San Francisco (O'Briant et al., 1976/77). Again, five percent of the clients in this program had to be transferred for medical care, which included two percent requiring emergency care, and three percent classified as non-emergency cases. To investigate the degree to which those who weren't referred were misjudged by program staff and actually required medical

treatment, a sample of 99 clients were randomly chosen from the 95% non-referred group for a complete medical evaluation. Examined by a physician and given a battery of laboratory tests at 24, 48, and 72 hours after admission, it was determined that none of these clients were in need of medical care, or manifested any laboratory abnormalities.

Typifying the literature on the safety of non-medical programs is an article by Whitfield et al. (1978). Despite offering sketchy data and having obvious methodological weaknesses (Rix, 1979), the Whitfield et al. study appears to be the most widely known and disseminated piece of research in this area (due in no small part to where it was published -- the Journal of the American Medical Association). The focus of the article was withdrawal data obtained on alcoholics attending two non-medical detoxification programs in Illinois. These data came from patients who had passed an unspecified screening procedure; some eight percent of the 1,114 patients entering the programs were referred to a hospital for "further examination," and were not included in the main study sample (though two-thirds of these referred patients were returned to the non-medical program). Of the 1,024 patients who were treated at the non-medical sites, signs of severe withdrawal were rare (less than four percent experienced hallucinations, 12 patients had seizures and only 1 developed delirium tremens), and the proportions of patients with abnormal vital signs were less than or equal to what would be expected of persons treated in a medical environment. In their

conclusions, Whitfield et al. stressed the cost-efficiency of their model, and the surprisingly effective use of reassurance and "reality orientation" in the control of withdrawal symptoms.

Findings from these individual studies must be regarded as hopeful, but far from conclusive. With regard to safety, the promise of non-medical detoxification is clearly best expressed in the consistency of these "one-shot" evaluations. In all of these studies, the proportions of clients requiring medical care is never more than eight percent, and most of them report that with the increasing sophistication of the non-medical staff, and a dependable medical back-up facility, the programs are able to handle more and more "severe" symptoms on-site. Nevertheless, in the absence of controlled research in this area, there are remaining questions about the external validity and generalizability of these studies. The present research, in which subjects were randomly assigned to medical and non-medical modalities, was designed to address the gaps in knowledge left by these earlier tests of safety issues.

Rehabilitation efficacy. As noted above, the development of non-medical programs was closely tied to the burgeoning need for provision of detoxification services to the public inebriate population. Part of the argument offered in support of non-medical alternatives was that these programs were more effective in encouraging clients to continue in alcoholism treatment, thus increasing their chances for recovery. Another major issue addressed by the current study, then, is the rehabilitative

efficacy of these different detoxification modalities. The empirical literature has been equivocal with regard to this question. In a recent analysis of the extent to which the goals of the Uniform Act have been successfully implemented, Finn (1985) pointed out that there are no reliable direct data available on rehabilitation of public inebriates. Rather, researchers have relied upon the number of referrals made by detoxification facilities, acceptance of referrals, completion of treatment, and recidivism as indicators of rehabilitation success.

Regardless of the particular detoxification modality, research on public inebriates indicates that most of them leave detoxification without a referral to treatment. In his compilation of outcome results from 20 studies of public inebriate detoxification facilities, Finn (1985) reported that in 17 of these facilities more than 75% of the patients left without a referral to aftercare. Many clients left before completing the detoxification program and most of the others reported that they had their "own plans," e.g., to join AA. Among those patients who received a referral, the proportion who accepted the referral varied between 35% and 100%, and the completion rates tended to be low. Similarly, in their study of the effects of implementation of the Uniform Act in Seattle, Fagan and Mauss (1978) reported that during the first two years under the Act, only 30% of detoxification clients accepted referrals for treatment. These results led them to conclude that the Act had

replaced the revolving jail door with a "padded revolving door." Furthermore, because no attempt was made to verify whether clients showed up at the treatment programs to which they were referred, the actual rates of entry and completion of treatment in the Seattle study are unknown.

Similar results were found in the study of detoxification centers in Ontario, Canada (Annis, 1979). Representing a range of medical and non-medical modalities, staff in detoxification facilities throughout the province reported referral rates of 20 to 50%; however, when attempts were made to verify whether clients actually attended the programs to which they were referred, they revealed that a large proportion never showed up. In one study, Annis and Smart (1978) found that only 10% of clients received a referral and presented themselves for admission to treatment. Among those clients who accepted a referral and enrolled in treatment, retention was a problem (for both residential and outpatient programs). The average length of stay in residential rehabilitation programs was 2.8 weeks and in half-way houses and residential farms stays averaged five to six weeks. Half of those who entered outpatient treatment dropped out after the first appointment, and two-thirds after the second appointment. These drop-out rates are much higher than those reported for populations with higher socioeconomic status and greater social stability (Baekeland, 1977; Gerard & Saenger, 1966; Panepinto & Higgins, 1969).

Very few of the studies comparing medical and non-medical detoxification have used any type of controlled design, thus rendering valid comparisons very difficult. However, in the best study to date, McGovern (1983) compared clients treated in the medical and non-medical components of the same detoxification program, and through multivariate statistical techniques attempted to control for preexisting differences between the groups treated in these two modalities. As would be expected from the emphasis placed by non-medical programs on referrals, he found that non-medical clients were more likely to receive a referral (69%) than were medical clients (56%). Furthermore, clients of the non-medical component were twice as likely to be referred to inpatient rehabilitation (34%) than were clients who received medical detoxification (17%). While this was not a controlled study (i.e., clients were assigned to medical or non-medical detoxification on the basis of assessed need), McGovern computed an analysis of covariance on commitment to referral and found that the clients who detoxified in the non-medical component were more committed to "higher level" referrals (e.g., inpatient over outpatient or AA) than were those in the medical component of the program. None of the covariates (scores on the Physical Problem Inventory, the Assessment of Life Experiences scale, the Motivation scale, the SMAST, age, and number of previous treatments) were related to the dependent variable.

As was indicated above, the design of social setting detoxification programs called for special emphasis to be placed

on post-detoxification referrals for treatment. The general assumption was that these detoxification facilities (made available to public inebriates through the Uniform Act) would be the entry point into a continuum of care, and thus lead to rehabilitation and lower rates of recidivism. A variation on this assumption was offered by Sparadeo et al. (1982), who argued that the social setting model's emphasis on referrals should result in longer periods of sobriety, but not necessarily lower recidivism. Furthermore, while social setting facilities were expected to make as many referrals as possible, they could not be held responsible for the effectiveness of the subsequent treatment. For these investigators, the expansion of social setting detoxification for the public inebriate population simply meant more clients would be better cared for, and more would be referred to further treatment, increasing their chances for rehabilitation. This was confirmed in their analysis of data from a social setting program in which clients who had been admitted to the program two to five times were significantly more likely to accept a referral than those who had been admitted just once. Overall, during a 6- to 20-month period, more than one-third of the clients accepted a referral to treatment, a proportion within the range reported by other studies.

Sparadeo et al.'s interpretation of these results are consistent with other published data on acceptance, implementation, and completion of referrals to treatment. The research done to date indicates that recidivism does not appear

to be lower subsequent to implementation of the Uniform Act than it was previously. For most public inebriates, rather than providing entry to treatment, detoxification facilities represent a different revolving door from that of jail. However, in contrast to the drunk tank, detoxification facilities are humane and safe, and provide potential entry into alcoholism rehabilitation.

An issue of interest in the studies of the Seattle and Ontario experiences was the effect of the Uniform Act on recidivism. In 1973 recidivists (defined in this study as those with five or more arrests) represented 11% of the drunkenness arrestees in Seattle. In comparison, in 1975 (the first full year under the Act), 46% of admissions for detoxification were recidivists, and in 1976, 59% were recidivists (Fagan & Mauss, 1978). While these two groups are not directly comparable (and Fagan and Mauss' contention that this represents a four-fold increase appears exaggerated), the rate was considerably greater under the Act than had been anticipated. Similarly, a surprisingly high rate of recidivism was observed in a six-month follow up of the Ontario Program, where more than half of those admitted to residential treatment were subsequently arrested for drunkenness, and two-thirds were readmitted to detoxification, a greater proportion than those who had not entered rehabilitation (Annis, 1979). One exception to these findings was reported by Smart et al. (1977), who found that clients who had been referred to treatment had fewer subsequent detoxifications than those who refused referrals.

But the more common conclusion drawn from recidivism results is that the revolving door has been relocated, and it may even be revolving faster. This was indicated in Finn's (1985) comprehensive review of 51 detoxification facilities in which the average number of readmissions for detoxification was found to range from 2.68 for one year to 9.8 over a-two year period. Rather than reducing recidivism, under the Uniform Act admissions to detoxification centers replaced or augmented admissions to jail. It is possible that increasing numbers of alcoholics chose to avail themselves of the new, free detoxification treatment.

The data on referral and recidivism rates suggest that the Uniform Act has failed to encourage rehabilitation of the public inebriate through a continuum of care. Finn (1985) has suggested that this failure may be attributable both to weaknesses of implementation and to conceptual flaws of the Act. Among the implementation inadequacies is failure to arrange for reliable transfer to other facilities in the health care system, including rehabilitation programs. Lack of funds is a major problem which may account for this and other problems. The Act's continuity of care concept has also been questioned by Finn; the Act did not recognize the lack of effective treatment techniques and the need of the public inebriate for shelter and employment. The absence of empirical evidence for the efficacy of the most commonly used treatment approaches is well-documented by Miller (1985) and offers substantial support for Finn's interpretation.

The failure to differentiate between skid row alcoholics and members of other alcoholic populations may partially explain the continuing high recidivism rates. Research has shown that social stability is one of the better predictors of success in rehabilitation, and the homeless alcoholic is sorely lacking in every measure of social stability (e.g., Baekeland et al., 1975 and Neubuerger et al., 1980). Certainly, a first step in the rehabilitation for members of this population should be the provision of adequate shelter. This lack of shelter may also have a depressant effect on other measures of success of detoxification programs: those individuals who use detoxification facilities for shelter rather than to obtain entry into longer-term care are probably less likely to accept or complete a referral for treatment. The reasons for the failure to address this need are most certainly multiple and different among different municipalities, but until some attention is paid to the primary needs of homeless alcoholics, the outlook for their recovery will remain bleak.

CHAPTER III:
RESEARCH DESIGN

The research was designed to test the impacts of three detoxification modalities on a randomly assigned sample of public inebriates. Operating in New York City, the three modalities were existing freestanding medical, hospital-based medical and social setting (non-medical) detoxification programs. This section describes the original research design, hypotheses and the rationale behind them.

Following this discussion is a description of the facilities that took part in the study. The medical modalities were represented by the Manhattan Bowery Project (MB), a freestanding facility, and the detoxification unit at Beth Israel Medical Center (BI). For the first four months of data collection, the West Side Social Setting Alcoholism Treatment Center (SS) served as the non-medical facility. This program closed unexpectedly during the research, but was replaced by another non-medical detoxification program, the Lower Manhattan Emergency Care Service (LM). Each of the facilities is described in greater detail below, including: the location of the physical plants; program staff, atmosphere and treatment philosophy; and comparisons of the research sites with other detoxification facilities in New York City.

In addition to replacing the first social setting study site, research implementation required slight modifications of the original data collection procedures. The variations from the

original research design that resulted from the implementation are discussed following the description of the facilities.

Modalities. Alcoholism detoxification has traditionally taken place in a specialized unit within a general or psychiatric hospital. The development of this practice is related to the body's physiological response to withdrawal from alcohol, characterized by tremulousness, sweating, and in more severe cases, seizures, hallucinations, and delirium tremens (DTs). Termed alcohol withdrawal syndrome by physicians, this condition is typically treated in medical environments by the administration of benzodiazepines or phenobarbital. The detoxification unit at BI is an example of a traditional hospital-based program. A freestanding medical program such as MB also provides medication to alleviate withdrawal symptoms and provides medical care for other conditions the patient might have. However, it performs these services without the comprehensive facilities provided by a hospital, and therefore, can provide detoxification at lower cost (albeit without the provision of the range of tests and treatments that are available in a hospital). An alternative to the traditional detoxification model was introduced in the early 1970's in this country, following successful programs in Canada and Europe. These non-medical or social setting facilities operated under the theory that many of the symptoms of withdrawal could be reduced or eliminated with the provision of a "warm, supportive environment" for detoxification. In such a program, all the care might be

provided by para-professionals, thus further reducing the cost of detoxification, and the lack of medication would allow clients to avoid its potential side effects. This approach is represented in the current study by SS and LM.

Population. In broad terms, the research was designed to test the safety and efficacy of non-medical detoxification for public inebriates, and this goal dictated the research design and the selection of facilities. Because most of the clients served by the MB and SS programs are public inebriates, the research intake was conducted at these two facilities (and later at LM, which serves a similar population). In addition, the non-medical facilities tend to have more restrictive entry criteria than MB, so that to be eligible for the research, an individual had to appear to be eligible for detoxification in a non-medical facility. Thus, the initial criteria for eligibility for the research were as follows:

> The individual had to be a male, public inebriate who presented himself for detoxification at MB or SS (or, after 10/1/84, LM) or agreed to detoxification when approached by a rescue worker from MB or SS.
>
> He had to be someone who was not obviously ineligible for non-medical detoxification, based on observation by the rescue worker, intake worker or site researcher and on responses to a few select questions regarding his medical history. That is, any candidates who exhibited a serious injury obviously requiring hospitalization; displayed psychotic behavior not associated with alcoholism; indicated that he was (or was observed to be) dually addicted; or had a heart attack within the last six months, was not eligible for inclusion in the research sample.[1]

[1]The stringency of the eligibility criteria was increased somewhat when LM became the non-medical facility in the research. In recognition of the likelihood that this would change the sample characteristics, statistical tests were done to compare the two non-medical facilities; the results of these tests are reported in Chapter VII below.

He had to indicate a willingness to accept treatment in any of the three programs.

He had to agree to participate in the research by signing a consent form at intake.

The research population was necessarily limited to males because females are not accepted at MB (due to its location in the New York City Men's Shelter). In addition, women form a very small proportion (less than 10%) of the clientele of detoxification programs in New York City and it would have been difficult to obtain an adequate sample to study. Therefore, the exclusion of women from the study was not considered a problem, and its only implication is that the generalizability of the research results is limited to male public inebriates. Thus, the population from which the research sample was drawn could be described as male public inebriates, not obviously unsuited for non-medical detoxification, who desired detoxification.

Hypotheses. The principal impact hypotheses were based on a review of the literature and an understanding of the operations of and the populations served by the programs under study. The first hypothesis was based on the knowledge that medical detoxification programs, by virtue of the examinations and tests conducted, generally identify a larger number of medical problems that need treatment than do social setting programs. It was therefore expected that a larger number of medical problems would be identified and treated (or at least referred for treatment) in

the MB and BI programs than in the SS and LM programs.[2] No difference was predicted between MB and BI.

Although the literature was inconclusive with respect to the experience of various programs with early terminations (i.e., participants who leave before completing the full detoxification period and against the advice of program staff), it appeared that this was more likely to occur in non-medical programs. It was anticipated that some social setting clients would be required to leave for medical reasons or because of particularly difficult withdrawal symptoms. There may also be a perception among some program clients that non-medical detoxification is extremely uncomfortable. Thus, the second hypothesis was that early termination would be more frequent among the SS subjects (and by extension, among the LM subjects) than among the MB or BI subjects. No difference was hypothesized between MB and BI in this regard.

In general social setting programs are expected to concentrate more energy on social services and linking clients with aftercare treatment than are medical programs. In addition, prior to the research, SS staff stressed that they used particularly restrictive criteria in identifying appropriate types of referrals for their clients. Therefore, it was

[2]The original design included the two medical programs and only one non-medical program, SS, and therefore, the original hypotheses refer only to those three programs. It is reasonable to include the LM program with SS in these hypotheses because both are non-medical programs. The new hypotheses, based on the implementation experiences, suggest different results for SS and LM because of the different practices of these two programs.

hypothesized that among those who completed the detoxification, a higher percentage of MB and BI subjects than of SS subjects would be referred for treatment. Furthermore, because of the emphasis on an appropriate referral, subjects referred for treatment by SS were expected to be more likely to carry out the referral than were those referred by MB or BI.

The hypotheses enumerated above were the "principal impact" hypotheses in the original proposal. Although no other specific hypotheses were articulated, additional outcome variables of major interest were specified. One of these is a measure of program completion rate, defined either as a dichotomous variable or as a continuous variable indicating length of stay in the detoxification program. Second, critical to the issue of the relative safety of non-medical detoxification for this population, are measures of the nature and frequency of trauma associated with withdrawal. Therefore, data on the incidence of tremors, sweating, hallucinations, and seizures, as well as vital signs, were collected throughout the detoxification period. As is described in the results section below (Chapter VIII), the study sites were compared on these variables, and the possibility of creating an index of trauma was explored.

In addition to these objective measures, data were collected on the subject's assessment of his experience in the detoxification program. These data are relevant to the question of safety and efficacy of non-medical detoxification, and are used both as outcome variables and as predictors of program completion and acceptance of referral for treatment.

A final measure of the efficacy of the programs was number of readmissions for detoxification. That is, if a detoxification program is making effective referrals for treatment, a greater proportion of its clients should remain sober for a relatively longer period of time than clients of an ineffective program. An indirect measure of failure to remain sober would be readmission for detoxification. Accurate measurement even of readmissions requires comprehensive data collection from a number of sources. Because an individual may utilize any of a number of detoxification facilities, it would be optimal to establish relationships with all the detoxification facilities in New York City. Efforts were made to gain the cooperation of some 30 detoxification programs in the city and to obtain from them the dates of admission of research subjects; the success of this effort and the resulting data are discussed below.

Intake Procedures. Although fairly extensive literature exists regarding the safety and efficacy of various modalities of detoxification, the lack of controlled research in this area compromised the validity of previous findings. Thus the current research design involved random assignment of subjects to detoxification programs. Such a controlled design would allow differences in outcomes to be ascribed to the programs rather than to differences in their treatment populations.

To ensure that the assignment to detoxification programs would be truly random, the assignment of subjects and other research activities were carried out by research staff employed

by the Vera Institute. It was the responsibility of the site researcher to assess the eligibility of each individual presented for admission at one of the entry sites (MB, SS, or LM). Site researchers were stationed at the entry sites from 8:00 a.m. until 4:00 p.m., Monday through Friday; these hours were scheduled to coincide with the "intake" periods of the various programs. That is, rescue teams were sent out by MB at three scheduled times each day 8:00 a.m., noon, and 4:00 p.m.; up to five men (depending on bed availability) would be admitted to the program during each of those periods. Research intake was conducted during the morning and noon intake periods, but was not done during the 4:00 intake because BI would not process anyone for admission after 2:00, and because conducting research intake during all three periods would necessitate having research staff for two shifts. SS admissions did not involve examination by a doctor; therefore, admissions were conducted there all day, whenever an individual presented himself for detoxification.

Rescue teams at both MB and SS screened clients prior to presenting them to the admitting staff. If they found an individual in need of emergency medical care, they would deliver him to the emergency room of a local hospital, not to the detoxification facility. In addition, prior to the implementation of the research, rescue teams screened out clients who they knew had been discharged from the detoxification facility within the last 30 days. This procedure was waived for the duration of the research; rather, the rescue teams were

instructed to use their judgment and bring in only those individuals who were in need of detoxification, regardless of the elapsed time since discharge.

When an individual walked in or was brought in by a rescue team to either MB or SS, he would be seen by the program's intake staff who would find his file if he had been there before, or start a new file. He would then see the site researcher who would determine whether the applicant was eligible to participate in the research, and if so, try to obtain his informed consent. Eligibility was determined both by observing the applicant's condition and by asking him a series of questions based on the criteria described above.

Initial determination of research eligibility involved ensuring that the client had not been in the research previously and was not in need of emergency medical care. The researcher would then ask him a series of questions to determine whether the client was intoxicated and likely to go through withdrawal, or already displaying signs of withdrawal. He would also ask the client if he was currently using any drugs in addition to alcohol (focusing on those which would result in drug withdrawal if the individual ceased using them). Clients who fit any of these conditions -- previously in the research, in need of emergency medical care, not in need of detoxification, dually addicted -- were considered ineligible for the research. The same was true of clients who were too intoxicated or otherwise incoherent to communicate with the researcher.

If the client appeared to be eligible, the site researcher would describe the research to him, including its purpose and the consequences of consent. The researcher would stress that if the applicant agreed to be in the research, he would be agreeing to go to whichever of the three programs he was randomly assigned. The applicant was assured that if he did consent and was randomly assigned to a program other than the entry facility, he would be transported there. He was also informed that if he did not want to participate in the research, he could be detoxified at the entry facility. A copy of the consent form and the protocol used by site researchers to obtain consent may be found in Appendix A. The consent protocol included a summary of the information to be collected on all subjects (including data on readmissions for detoxification for four months subsequent to discharge from the present admission), a description of the three research sites, and an explanation of the random assignment procedure. Potential subjects were assured of anonymity and the confidentiality of all data collected for the study; they were also told they could drop out at any time, even after giving initial consent. Any clients who refused to participate were turned over to the program admissions staff for normal processing. Those who indicated they were willing to be in the research, signed two copies of the consent form (one for the research office and one for the subject to keep).

The result of this screening process was the identification of one group of individuals who were <u>ineligible</u>; a second group

of individuals who were eligible but not willing to participate, termed respondent rejects; and finally, a group of eligible subjects who agreed to participate, consenters. It is the consenters who form the research sample. The number of individuals in each group and the reasons for ineligibility are discussed in Chapter V. A comparison of respondent rejects and consenters and a description of the research sample is provided in Chapter VI.

Once an eligible individual consented to be in the research, the site researcher would call the Vera research office for an assignment. If the subject was assigned to the entry facility, he would be processed like any other client at that facility. If he was assigned to a different facility, it would be determined whether a bed was available there. If, as was true in a small number of cases, a bed was unavailable, the subject became a research reject and was processed and admitted to the entry facility (unless there was no bed available there). In addition, a few subjects changed their minds about participation after being assigned to a detoxification facility; these subjects became respondent rejects.

Once the research was implemented, it became clear that additional screening was necessary at the entry site if the subject's random assignment was to Beth Israel. As is discussed in detail in several subsequent sections of this report, the rather large number of untreated BI subjects had important implications for the research and for treatment of public inebriates.

There were also a few untreated MB and SS subjects, most commonly not admitted to the assigned facility because they were regarded (based on previous visits) as "troublemakers" by the facility. Untreated subjects were generally admitted to the intake facility. Thus, only rarely did an individual apply for detoxification services and fail to receive them as a result of agreeing to participate in the research, and in no case did he fail to receive such services as a result of refusing to participate. In summary, the research intake process produced four general categories of subjects: respondent rejects, research rejects, untreated subjects, and treated subjects; the latter three categories are the members of the research sample. It is the <u>treated</u> subjects, who received their detoxification at the randomly assigned facility, who form the group of major interest to the research.

Once a research subject was admitted to the assigned facility, he received the standard detoxification regimen for that program; i.e., he was treated no differently than if he were not in the research. At some time during his stay in the detoxification program, the site researcher would ask him some questions about his drinking and treatment history and collect other information that was not available from program records. In addition, the site researcher would obtain from the program files each subject's daily vital signs, medical history, medical conditions diagnosed during the current stay, the length of stay in the detoxification program, and his referral for treatment. Just

prior to discharge from the detoxification program, the subject would receive a brief exit interview comprised of questions regarding his satisfaction with the program, his expectations regarding future sobriety, etc.

The process described above was expected to continue for approximately five months and yield data on approximately 675 treated subjects. These original estimates were necessarily tentative, and once the research was implemented, the expectations and procedures had to be revised. One important product of the research process was a clear understanding of the operations of the study facilities and the context within which they exist. Descriptions of these facilities are provided in Chapter IV.

CHAPTER IV:
FACILITIES

As described previously, there were originally three facilities involved in the research, MB, SS and BI, with LM replacing SS as the non-medical facility seven months after the start of data collection. Each of these facilities has its own admissions, treatment and referral procedures, and these procedures shaped the research process as well as influencing the outcomes for the clients. Thus, it is important to have a clear understanding of the similarities and differences among the programs.

Manhattan Bowery Project

In 1967, in an attempt to demonstrate that detoxification centers could provide a humane alternative to the periodic arrest and incarceration of public inebriates, the Manhattan Bowery Corporation began offering detoxification services to disaffiliated alcoholics located in New York City's Bowery area. The project was, in fact, able to demonstrate an ability to remove public inebriates from the street without resorting to criminal justice interventions and became influential in bringing about the decriminalization of public inebriation in New York State on January 1, 1976. Manhattan Bowery Corporation is a private, not-for-profit organization whose detoxification program is funded by New York State under the administration of the City of New York.

Setting. Currently, the Manhattan Bowery Project (MB) operates a 48-bed, freestanding medical detoxification unit, located

on the fourth floor of the Men's Shelter at 8 East Third Street in Manhattan. According to MB staff, the program provides an average of 3000 detoxifications per year, but because of many repeat admissions, these represent about half that many individuals. For example, during 1984 the program reported 2806 admissions for 1532 individuals. Because the program was designed to serve disaffiliated alcoholics, it is housed in the same building as many of the City's social services for this population. The building is old, in disrepair, and can be a shock to the uninitiated; it has been described by visitors as "Dickensian." On most days homeless men mill about the entrance to the facility, some alone, others in groups. The first floor contains a recently renovated recreation area, referred to by clients as "the big room." It is here that the men wait for services or meals, or just pass the time indoors. It is through this entrance that MB's clients must pass, and many of those interviewed reported being afraid of the Shelter, particularly the big room.

Once upstairs on the fourth floor, the MB detoxification unit provides a considerably more pleasant atmosphere for detoxification than the rest of the building. Though old and dingy, the fourth floor is quiet and orderly. There are two wards, dominated by long rows of beds on either side of the room, with little color or decoration. Though it has fewer beds than the recuperation ward (20 as opposed to 28), the acute ward is the largest room on the floor. With a nurses' station at its

center, it is obvious that sleeping and medical treatment are the predominant activities in this room. The beds in the acute ward are usually full, with many occupants asleep or half-awake. There is one table in the room, where two or three clients[3] or a staff member may be sipping tea, talking quietly. Separated by a doorway, the recuperation ward has tightly spaced beds and lockers for each client. There is slightly more evidence of activity in this room, with men sitting up in bed, sometimes talking in small groups.

The day room is utilized by clients who have been in the program for a few days. This room is generally quite active, with men watching television, talking or playing cards. However, it is a small, dark and usually smoke-filled room, providing little more cheer than the rest of the facility. This room is also used for AA meetings, and staff members may congregate there during free time.

Admissions. The project operates "rescue teams" between 8:00 a.m. and midnight on weekdays and between 8:00 a.m. and 4:00 p.m. on weekends; these rescue teams are composed of two police officers or one officer and a rescue aide (rescue aides are recovering alcoholics employed by MB). Using unmarked police cars, these teams patrol the program's catchment area (the Skid Row area in lower Manhattan) in search of particularly debilitated alcoholics. The research found that approximately 25% of the

[3]Though referred to as "patients" by the two medical facilities which took part in the research, the term "clients" is used in this report to identify users of any of the four facilities.

project's clients are brought in by the rescue teams; walk-in clients wait on the first floor of the Men's Shelter for the rescue team to take them upstairs. In addition to bringing clients in for detoxification, the rescue teams escort clients to and from the hospital and perform other functions for the Manhattan Bowery Corporation. During the 11 months of research intake, the rescue team also transported research subjects who entered at MB to their assigned sites.

The criteria for entry into the MB detoxification program are that individuals be male chronic alcoholics who are intoxicated, and not dually addicted. When prospective clients are brought to "the 4th floor," as the program is known on the street, a brief intake interview is conducted by a security guard. Entrants are required to sign a statement of voluntary commitment and a Notice of Status and Rights before admission. Their personal property is stored and a receipt issued. Because most of these men live on the street, their clothes are often quite dirty, in disrepair, and sometimes infested with lice; therefore, each entrant is asked whether he wants to keep his clothes or would like MB to provide him with another set. After a shower and delousing, the client is issued a pair of clean pajamas. He then receives a brief medical examination from the physician or physician's assistant, and a medical history is taken. If the attending physician believes the client needs an emergency medical transfer to a nearby hospital (to receive treatment, for example, for fractures, stroke, or suspected

active tuberculosis), he is transported there by the rescue team. Otherwise he is assigned to a bed. Once the client is awake and more comfortable, he receives another, more thorough examination.

Treatment. Detoxification at MB is a five-day procedure, though clients occasionally stay longer if further medical attention is required. Generally the first two days are spent in the acute care ward, where nurses keep close watch on the clients in the early stages of withdrawal.

Clients receive gradually diminishing dosages of phenobarbital throughout their five-day stay, starting with 130 mg. every three to four hours on the day of admission, reduced to 60 mg. four times daily on the second day, then 30 mg. four times per day on the third day, etc. In addition, they receive daily vitamins and Benadryl to help them sleep. Although MB does not have laboratory facilities, a urinalysis and a blood test are completed on all clients as part of the screening process and specimens are sent to outside labs for analysis. In the event of major illness (or medical condition requiring intravenous medication, diagnostic apparatus, life-support equipment, etc.), clients are sent to a nearby hospital where they are either treated and returned or hospitalized, depending on the seriousness of the condition. Only 10-20% of MB's clients are referred to the hospital during their detoxification, and most of these are returned to MB; at most, 5% stay in the hospital.[4] Clients

[4]The new Medical Director at MB reports that the hospital referral rate has dropped substantially during the past year, reflecting greater ability to handle medical conditions within the unit.

have their initial contact with an alcoholism counselor within the first 24 hours of their stay at MB. Most of the counselors are themselves recovering alcoholics who are able to provide peer identification for the clients.

On the third day of their stay, clients are typically moved to the recuperation ward. During this phase of recovery, a "psychosocial" history is taken, and the counselors begin to discuss treatment issues with the clients. Most clients have three individual meetings with an alcoholism counselor, attend at least one group session on alcohol education, and are encouraged to attend two meetings of Alcoholics Anonymous (AA) during their five-day stay. On the fourth day, the counseling session is devoted to preparation for a referral to post-detoxification treatment. Although clients are encouraged to accept a referral, according to MB's director of social services, only about 30% do so (13% to the in-house outpatient program, 5% to other outpatient programs, 2% to residential alcoholism treatment programs, 1% each to non-rehabilitative residences and custodial residences, and the remaining 8% to a variety of non-alcohol related services). The remaining clients either leave early against medical advice or complete the detoxification but have their "own plans," usually to go back to the street.

Staff. During 1984 MB had approximately 30 staff members, of whom about half were social service and half were medical staff. A physician's assistant is on the staff full-time, and a doctor is on call at all times; there are five full-time nurses,

supplemented by per diem nurses and doctors as needed. Almost all of the non-medical staff (alcohol counselors, security guards, rescue aides and maintenance crew) are recovering alcoholics. There are four alcoholism counselors, all of whom are recovering alcoholics. Although MB provides fewer counselors per client than most non-medical facilities, nurses perform counseling functions in addition to providing for the medical needs of clients.

Approach to rehabilitation and referral: The primary emphasis at MB is to get the client through the withdrawal as comfortably as possible. The approach used to accomplish this goal as cheaply and efficiently as possible is to medicate all the clients. As was indicated above, virtually all clients receive both phenobarbital and Benadryl (to help them sleep) for their entire stay at MB. MB's admissions policies reflect the belief that it is a "facility of last resort" for a disaffiliated, impoverished population. Any male who is intoxicated and obviously needy is accepted for detoxification. Most of MB's clientele have a long history with the program; it is estimated that 85% of them have had at least one previous detoxification there, and many of them have detoxified at MB in excess of 20 times. For these "regulars," no clear evidence of need for detoxification is required. This policy, according to the MBC Director, reflects the program's concern with treating alcoholics rather than simply individuals' predetermined medical criteria.

To deter individuals from using the facility as a shelter, MB requires that 30 days pass between a client's previous admission and readmission. If an applicant is "short," but appears to be in particularly bad shape, this requirement is waived. Although counseling and alcoholism education are provided, the emphasis is on the clients' overall physical condition. As was indicated above, the counselors attempt to refer all clients for post-detoxification treatment, but the most recent data available from MB staff indicated that only about 30% of them accept such referrals, and the majority are to outpatient programs. MB staff believe that residential treatment primarily provides alcoholism education, and after receiving such education on three or more occasions, its value is diminished.

West Side Social Setting Alcoholism Treatment Center

The West Side Social Setting Alcoholism Treatment Center (SS) was a 35-bed, non-medical detoxification unit serving both male and female public inebriates, run under the auspices of the Manhattan Bowery Corporation from 1977 until June 30, 1984. (Similar to MB, SS was funded by New York State in cooperation with New York City.) As was indicated above, the facility was closed because the building in which it was located was sold to developers. At that time, the Manhattan Bowery Corporation had hoped to reopen the facility in temporary quarters until a permanent location could be obtained; however, bureaucratic difficulties and a very tight real estate market rendered this

impossible. Although the program has remained closed, the Corporation still intends to resume its operation once a new site is obtained. The program was modelled on non-medical programs in Toronto and San Francisco and was designed as a less expensive alternative to traditional medical detoxification programs.

Setting. The program was located at 124 West 60th Street, on Manhattan's Upper West Side, and occupied 2.25 floors of a building owned by a church. The catchment area covered by SS was most of the West Side and included several major facilities in which public inebriates are known to congregate -- Times Square, Penn Station, the Port Authority Bus Terminal, and the Upper Broadway area that includes many of Manhattan's single-room occupancy (SRO) hotels. According to the staff, the program served approximately 2150 clients annually and about 73% of those were readmissions, i.e., had at least one prior detoxification at SS.

The notion behind the safety and effectiveness of social setting detoxification is that comfortable, homelike, supportive surroundings can be instrumental in alleviating many of the symptoms of withdrawal, as well as encouraging future rehabilitation. SS attempted to establish such an atmosphere in the facility it originally occupied, which burned down a few years after it opened, and the staff found it difficult to recreate this environment in the 60th Street facility in which the research was conducted. While not frightening like the Men's Shelter, SS had an old and dingy appearance. There were two large men's dormitories containing a total of 30 beds; these rooms were dark and

quiet, with long rows of beds. Compared to MB and LM, these areas were relatively spacious, with more room separating the beds from one another. There was also a five-bed women's dormitory.

Recreation facilities at SS included a large day room, a dining room, and a small library. All three of these rooms were open for the use of clients. The day room and the library each had a television, and watching television seemed to be the predominant activity in these rooms. The dining room was the brightest and seemed to be the warmest room in the facility, and was used throughout the day by both clients and staff for talking and playing games. Most of the clients who were beyond the first day of treatment could be found in one of these three rooms, either watching television, talking, or playing games. Two other rooms, usually occupied by counseling staff, were used for individual and group counseling sessions. These were comfortably sized rooms, and the one used for groups had a couch and overstuffed chairs. While far from luxurious, SS was relatively spacious, the recreation facilities were certainly cheerier than those at MB, and the general atmosphere there was less institutional.

Admissions. Like MB, Social Setting operated a rescue team to search its catchment area for alcoholics in need of detoxification. The rescue team at SS was similarly composed of a police officer and a rescue aide (who was a recovering alcoholic), but they operated only on a single shift, Monday through Friday, 8:00

a.m. to 4:00 p.m. The SS rescue team also brought in approximately one-fourth of the SS clients, with almost all of the other clients presenting themselves at the facility. Clients were required to be intoxicated, chronic alcoholics at the time of entry, and to be able to tolerate non-medical withdrawal. This meant being free of dual addictions, psychotic behavior and serious medical problems. SS also had a general rule that individuals who had detoxified there within the past 30 days would not be admitted.

All applicants for admission to SS were subject to the program's triage plan, a set of procedures established by the SS Medical Advisory Board, which governed who would enter immediately and who would be referred to a nearby hospital for medical evaluation. A counselor would take the applicant's temperature and pulse, and according to the triage plan, clients were to be referred to the hospital if their pulse was over 120, their temperature over 101 degrees, they had abdominal pain, or irregular skin color. Clients would also be referred to the hospital if they were vomiting or passing blood, exhibited recent traumatic injury or had difficulty breathing. An applicant presenting such symptoms would be escorted to the hospital emergency room, where a physician would determine whether he required medical attention and whether he was capable of non-medical detoxification. Applicants with a history of diabetes, cardiac condition, hypertension and epilepsy were accepted for admission and after intake might be referred to the hospital's walk-in clinics for medical

assessment and determination of suitability for non-medical detoxification. In most cases the physician would prescribe medication for the individual's medical condition and he would be referred back to SS for non-medical withdrawal. SS clients were permitted to take medication while they were in the program, provided the medication was not a mood-altering, hypnotic, sedative, or traditional alcohol withdrawal drug. According to the program director, only about three percent of the SS clients took any kind of medication during their stay; these included anti-convulsants, heart medication, antibiotics and antihistamines.

Almost all of those referred by SS to the hospital for assessment were treated and returned for non-medical detoxification. During its last year of operation, 2.5% of the clients who came to the program were denied admission because they did not meet the medical or withdrawal criteria. Those who were denied admission to SS for medical reasons were referred to a medical detoxification facility, usually MB. Those admitted to SS were showered (and deloused, if necessary), issued pajamas, bathrobe and toilet items, and familiarized with the facility. Personal property was stored for safe-keeping.

Treatment. The standard length of stay at SS was five days; although they could stay longer "if really sick," this rarely occurred. An alcohol counselor was assigned during the first 24 hours of a client's stay, but little interaction between clients and counselor was expected during the first day because of the

debilitating effects of intoxication and early withdrawal symptoms. During the first 48 hours of a client's stay, he would be observed hourly by a counselor, looking for signs of tremors, sweating, hallucinations or seizures. Pulse and temperature were taken only if the client appeared to be having difficulty (e.g., an impending seizure).

Those clients who experienced seizures or exhibited signs of impending DTs (rapidly rising pulse, hallucinations, excitability), or had profuse bleeding or chest pains would be sent to the hospital by ambulance (summoned by calling 911). Other reasons for hospital referral might include extended stupor or drowsiness, persistent vomiting or diarrhea, extreme paleness, complaints of pain or simply a counselor's uneasiness about a client's condition. During the last year SS was in operation, however, only four percent of its clients were referred to other facilities for medical care during the detoxification period, and only one percent were admitted to the hospital and did not return to SS to detoxify.

By the third day it was expected that clients would be feeling considerably better and capable of daily meetings with a counselor. In addition, clients were expected to attend alcohol education groups, group counseling and AA meetings. Alcoholism education groups, conducted four times a week, dealt with issues relevant to beginning sobriety, such as denial, obstacles to maintaining sobriety, and antabuse. Once a week an alcoholism film was shown, followed by discussion. The goal of the

counseling was to encourage clients to continue post-detoxification treatment and "break through the denial." No medication was given to keep the clients comfortable during withdrawal; rather, they received fluid therapy (usually fruit juice or tea), regular meals and snacks, and a supportive, available staff. Although the counselors tried to encourage clients to accept a referral for post-detoxification treatment, the program director reported that during the last year of operation, just over half of the SS clients accepted such a referral. Approximately 20% of the clients were referred to the Manhattan Bowery Corporation's outpatient program (located in the same building as the free-standing medical detoxification program) another 9% each to non-rehabilitative, custodial facilities and half-way houses, and the remainder to other programs. It is unclear where those clients who did not accept a referral went, but it is likely that they returned to the streets.

Staff. Typically SS had about 22 staff members. None of these were doctors, although the Manhattan Bowery Corporation Medical Director did visit the program occasionally. There were two Emergency Medical Technicians (EMTs) on the staff, and a consulting nurse available to the program. The program had counselors on every shift, for a total of 15, all of whom were recovering alcoholics. The other members of the staff included the program director, a cook, and a rescue aide.

Approach to rehabilitation and referral. SS must be regarded as less "bright and cheery" and perhaps less comfortable

and homelike than the social setting programs typically described in the literature. On the other hand, this facility was considerably quieter, more spacious, and more orderly than any of the other non-medical programs (sobering-up stations) available to this population in New York City.

SS also retained a concern for social rather than medical services, emphasizing alcohol education and counseling. The staff at SS had definite ideas regarding referrals for treatment, and often expressed the notion that being "too soft" on an alcoholic was akin to enabling him to continue his drinking. This led to a reluctance on the part of the staff to make referrals to residential treatment facilities when they felt that clients were not really motivated to participate in treatment, but were interested only in obtaining shelter. Most of the staff had been street alcoholics themselves and felt that their own recovery was the result of hard work and strong motivation, and that the clients also must indicate that they were sufficiently motivated to recover. As a result, these counselors would prefer to make no referral at all than to make what they considered an inappropriate referral.

The staff at SS also seemed less concerned than those at the other non-medical facility, LM, about discharging a client to the street after the five-day detoxification period. SS staff were firm believers in pulling oneself up by one's own bootstraps. Yet they also cared about their clients, and there was an apparent sense of commitment and devotion, often emanating from a

feeling of identification with the clients. Thus, the counselors' attitudes did not reflect coldness toward the clients, but rather their perceptions of how best to treat alcoholism in this population.

Beth Israel Medical Center

The alcohol detoxification unit at Beth Israel Medical Center (BI) is quite different from the other programs in the research. First and most important, the detoxification unit is but one unit within a large urban medical center. Second, the alcohol detoxification unit is part of a larger detoxification unit that also provides methadone maintenance, so it is possible for clients to be admitted for alcohol detoxification while enrolled in the methadone maintenance treatment program (MMTP). In addition, unlike the other facilities, the BI program is funded through third-party payments (most of which are Medicaid or Medicare). The detoxification program has been in existence since 1972, and has changed considerably over the years. Some of these changes occurred during the time the research was in progress, and the impacts of these changes are discussed below.

Setting. When the research intake began in early 1984, the alcohol detoxification program was housed (along with the MMTP) on the fourth floor of the Bernstein Institute, a rather old building containing only the drug and alcohol detoxification programs and psychiatric wards. The detoxification facility had 50 beds and was divided into two units: alcohol only and dual

addiction, with clients assigned to single rooms, double rooms or four-person rooms. The atmosphere was typical of an older, well-equipped hospital; it was institutional, but relaxed. A good deal of space was devoted to recreation areas. There were two day rooms and a coffee area in each section. Television, games, and arts and crafts equipment were available, as well as a ping pong table. Newspapers and magazines were also available, and there were juice dispensers in each section. Clients at BI seemed to use the recreational facilities more and were more animated than those at MB.[5]

In April of 1984, approximately two months after the start of research intake, the BI alcohol detoxification program moved to a new and better-equipped building. At the same time, the number of alcoholism detoxification beds was reduced from 50 to 30. In the new facility there are five 4-person rooms, three semi-private rooms (each containing two beds) and four private rooms. The rooms are not in wards designated as "men's" or "women's", but are assigned to men and women as needed. The new facility has a day room, which doubles as a dining room, a recreation room with a pool table, and a classroom in which

[5]This difference appears to reflect more than the physical differences between BI and MB. As may be seen in the discussion below and in later chapters, both the characteristics of the clientele and the treatment received were different at BI than at MB. Specifically, while the clients at MB were drawn almost exclusively from the public inebriate population, those at BI were more likely to be from the working class, or at least domiciled and less disaffiliated. With regard to treatment, MB clients were generally on medication for their entire stay in the detoxification program, while nearly half of those at BI received no medication after the third day.

alcoholism education sessions are held. The new facility retains the institutional atmosphere of the old facility, but is much brighter and feels very "shiny and new." (Visitors have, in fact, remarked that it is reminiscent of a hospital on a television soap opera.)

Admissions. The BI detoxification unit does not actively seek new entrants, and there are no catchment area limitations. During 1984, over 90% of BI's alcoholism detoxification clients were referred by outside agencies or units within BI (20% from BI's methadone program, 41% from other methadone programs, 4% from BI's outpatient treatment program, 4% from other BI services, and 21% from other sources). The remainder of the clients were "self-referrals," who generally must make an appointment to detoxify.

The admissions criteria at BI are far more stringent than those at the other programs studied. Applicants are subject to both medical and financial screening. According to the unit's "Criteria for Alcohol Detoxification,"[6] to be admitted to the program, an applicant must have an "admitting diagnosis of alcoholism" and a history of current excessive or recent drinking (within one week). If the applicant has Blue Cross (or other private insurance that covers alcohol detoxification) or is able to "self pay," the above characteristics would qualify him/her for admission. If the cost of the applicant's detoxification is

[6]Detailed, printed information on admissions criteria were provided in an interview with the Director of the Beth Israel Alcoholism Treatment Program.

to be paid by Medicaid, evidence of a withdrawal syndrome must be observed, as defined in Diagnostic and Statistical Manual of Mental Disorders, Third Edition (DSM-III). Evidence of alcohol withdrawal syndrome is demonstrated by at least four weeks having elapsed since the client's last hospitalization and at least three of the following:

1. diaphoresis (excessive sweating)
2. tremor
3. agitation
4. hallucinations
5. nausea or vomiting
6. disorientation to time or place
7. temperature of 100 degrees or higher
8. pulse of 100 or higher
9. blood pressure of 170/100 or higher
10. convulsions within the preceding 72 hours

Determination of whether an applicant meets the withdrawal criteria is made on the basis of a physical examination by either a physician or a physician's assistant.

In addition to the medical screening, all prospective BI clients must pass through a financial screening. As indicated above, if the applicant produces evidence of active private insurance or active Medicaid and meets the necessary medical requirements, he/she will be admitted. If, on the other hand, he/she does not possess a valid insurance card, eligibility for Medicaid must be determined. (According to the ATP Director, approximately 10% of BI's alcohol detoxification clients pay with private insurance and 90% pay with Medicaid or Medicare. Not all of those who pay with public insurance possess an active Medicaid card at the time of their application for admission, and therefore, the financial screening is an important part of the

admissions process.) Determination of Medicaid eligibility is based on criteria published by the New York City Human Resources Administration (HRA), Department of Income Maintenance; it is to this agency that the hospital (or individual) must apply for Medicaid payments. The applicant for Medicaid must possess identification sufficient to show that s/he is the person applying for assistance (i.e., a picture I.D., as specified by HRA); proof of U.S. citizenship; proof that s/he is a resident of New York City, such as rent receipts or a signed lease; and information regarding employment, income and other resources. Individuals who had been admitted to BI within the past year or two, and who had valid Medicaid at the time, need only demonstrate that they were still eligible. Those applicants who do not pass the financial screening are "deferred"; they are given a list of necessary documents and told to return when they have acquired the papers which will satisfy the requirements.

An applicant who "has clear medical need which requires hospital level of care regardless of ability to pay" will also be admitted. Medical need decisions are made by the admitting medical personnel; evidence of medical need might include "clear signs of withdrawal such as hallucinations, seizures, delirium tremens, elevated pulse and blood pressure." (Such medical need might also be determined by Emergency Room staff, especially during evenings and on weekends.)

An applicant who meets the financial criteria, that is, has valid insurance, but is acutely intoxicated, might be admitted

for a 24-hour observation. By the end of that observation period, his/her status would change to an "admission" if withdrawal becomes apparent; if not, s/he would be discharged. In practice, very few applicants are admitted who are not in withdrawal, unless they have private insurance. The more stringent financial requirements for Medicaid clients are necessary because BI must demonstrate that there is a need for hospitalization to be reimbursed for the associated costs.

Obviously, such involved screening (medical and financial) is time-consuming. Depending upon the number of applicants, a few hours might pass before an individual completes the process. According to the ATP Director, approximately 6% of all applicants are rejected because they don't meet the medical/financial criteria and another 40% are deferred (which means that if they come back the next day with the appropriate documents, they will be admitted).[7]

Treatment. Detoxification at BI is generally a six-day procedure, although a client might stay longer if medical complications or a need for detoxification from other drugs becomes apparent. For at least the first few days of a client's stay on the detoxification unit, his vital signs and physical condition are monitored closely, at least once per shift. Sicker

[7]Because of the necessity for random assignment, for research subjects, a deferral was tantamount to a rejection. Furthermore, as is discussed in Chapter V, the percentage of research subjects who were deferred/rejected from BI was substantially higher than that reported by the Director. Clearly this is the result of differences between the population normally served by BI and that represented by the research sample.

clients are monitored more closely, and those who are very sick (about 4% according to the Director) may be transferred to a medical unit for alcohol/drug clients.

Clients are given withdrawal medication, typically phenobarbital, based on an assessment of their need. In general, clients are given an initial dose of phenobarbital at admission, and then as needed for the first day (assessed every hour). If a client does not appear to need any medication, none is administered. For those clients who are placed on a medication schedule, the dosage is gradually diminished over the length of stay, and is discontinued whenever it is deemed to be no longer necessary. (Those who are dually addicted, e.g., to Valium, generally receive larger dosages, and the length of time on phenobarbital is extended to 10 days.) Vitamins are administered to clients throughout their stay, and after 72 hours in the program, a client may be given medication (phenergan) to help him sleep. In addition, those clients who show evidence of psychiatric problems are given appropriate medication to relieve their symptoms.

In addition to easing the clients through the painful withdrawal period, the ATP Director indicated that the detoxification program at BI strives to (1) help clients with their medical problems, (2) provide alcoholism education, (3) refer them to post-detoxification treatment, and (4) involve the family in the treatment process whenever possible. There are AA meetings scheduled every day for those clients who wish to

attend. (There are also meetings of Pills Anonymous and Narcotics Anonymous.) In addition, self-help groups meet seven days a week, and there are counseling and nursing groups each day. These groups are designed to teach the clients about stress management, general health care, relapse, etc. At the end of the client's stay in the detoxification program, the counselor attempts to make a referral for further treatment. The Director estimated that during 1984, approximately 90% of the clients accepted such a referral. The majority of them, about 58%, were referred back to the MMTP from which they came. Sixteen percent were referred to BI's outpatient treatment program, 4% to residential treatment programs, and 13% to other services.

Staff. The staff at BI consists of a full-time physician plus the resident on duty during each shift, as well as two physician's assistants, one of whom is a supervisor. There are 16 nurses covering all three shifts and weekends, and five counselors. In contrast to the other programs involved in the research, fewer than 10% of the staff members of the BI detoxification program are recovering alcoholics. The staffing pattern at BI is probably representative of a medical detoxification facility within a hospital. In addition to the detoxification staff per se, the detoxification unit has available the other services of a general hospital, e.g., a complete laboratory, pharmacy, medical/surgical units, etc.

Approach to rehabilitation and referral. Although BI is a medical detoxification facility, its treatment methods differ

from those at MB in many ways, not the least of which is the percentage of clients who receive withdrawal medication and the length of time they stay on such medication. At BI each client is assessed for his/her need for medical detoxification (because need for medical detoxification must be demonstrated to collect payment from Medicaid), need for medical treatment, and need for medication to manage withdrawal from alcohol. The result is that fewer of BI's clients receive withdrawal medication, and medication is discontinued sooner. This, of course, does not mean that the population served by BI is less needy than those served by the Manhattan Bowery Corporation programs; rather, the larger staff allows the care at BI to be more individualized.

There is no particular therapeutic technique used in the counseling at BI. The Director asserts that insight therapy on an inpatient alcohol unit is "ludicrous." The staff tries to show that the counseling is not judgmental; they provide educational groups, lectures, films, and peer groups. In addition, BI brings in people from the outside to familiarize the clients with other programs. Like the programs at MB and SS, the staff at BI attempt to refer clients to appropriate post-detoxification treatment.

Lower Manhattan Emergency Care Services

The Lower Manhattan Emergency Care Services (LM) facility is one of six publicly-financed "sobering-up stations" in New York City. These facilities predominantly serve public inebriates,

and were intended by the State of New York to be short-term non-medical services which would provide a less expensive alternative to traditional hospital-based medical detoxification. The LM facility is operated by the Bowery Residents' Committee, Inc., which provides a range of services to the indigent population of Manhattan's Lower East Side and Bowery area. The Bowery Residents' Committee includes in its services an outpatient alcoholism treatment program to which some of LM's clients are referred after their detoxification.

Setting. The LM program is located on the first floor of a building on Lafayette Street in Manhattan's Bowery area. There are 24 detoxification beds, one dormitory containing 20 beds for men and a four-bed dormitory for women. The center of the facility is the day room, which doubles as a dining room, recreation room, and television room. The space is very crowded, with clients everywhere, playing cards, watching television, or talking among themselves. Although LM has less space than any of the other programs involved in the research, and is located in a building just as old and dingy as MB and SS, the atmosphere at LM is considerably more animated and "warmer" than the atmosphere at MB or SS. There is much more informal intermingling of clients and staff, and former clients who are currently sober are encouraged to drop in for meals and socializing, which adds to the congenial atmosphere. Due to limited funds and a policy of allowing clients to remain at LM until a bed is available at a referral program, the healthier clients are asked to prepare

meals and to help maintain the physical space. This appears to promote a sense of cooperation and camaraderie among the clients and with the staff.

The dormitories are more cramped than sleeping areas in the other facilities, but are similarly quiet and dark. In addition to the day room and dormitories, there is a waiting room where applicants wait to be screened, an intake room where the screening is done, and a counseling room. Between the dormitories and the day room is a nurses' station, from which the staff can monitor those recent entrants who are in the most acute phase of withdrawal and are in bed. The clients' charts and any prescribed medications are also kept in this room, and it is to this room that clients come to request aspirin or make any special requests. This space, too, is small and cramped with a constant stream of clients, staff and telephone calls. While a newcomer might experience this as somewhat chaotic and decidedly crowded, one quickly warms up to the friendly and supportive environment in this facility.

Admissions. Unlike the two programs operated by the Manhattan Bowery Corporation, LM does not have a formal outreach or "rescue team." Seventy percent of LM's clients walk in seeking detoxification services, and the remainder are referred from other agencies. To be admitted to LM, applicants must either be in withdrawal or intoxicated, as indicated by a positive blood alcohol concentration, or transferred from a hospital or rehabilitation program.

Like SS and all sobering up stations, LM has a triage plan which is designed to screen out those applicants who might be unable to withstand non-medical detoxification. To be eligible for admission to LM, an applicant must be between 18 and 60 years old, not currently addicted to or heavily using substances other than alcohol, and have the "ability to withstand the non-medical detoxification process physically and psychiatrically ... in light of an evaluation of the most immediate physical/mental condition and history and, if indicated, medical clearance."[8] Applicants are closely observed during intake and a complete history is taken. Applicants with any of the following conditions must have medical clearance to be admitted:

--60 years or older
--pregnancy
--diabetes
--heart disease
--untreated contagious diseases
--history of seizures, if without medication
--history of hypertension, if without medication
--any behavior that might indicate psychiatric inappropriateness
--a state of intoxication more than evidenced by the alco-meter reading
--any chronic medical condition requiring medication, if without that medication
--presentation with any medication other than that for seizures and hypertension

Most applicants who need medical clearance are sent to a neighborhood outpatient medical clinic, and more serious cases are sent to a local hospital. The Director of Alcoholism Services for BRC estimated that approximately 15% of those who apply for

[8]Taken from The Bowery Residents' Committee, Inc. Emergency Care Service Triage Plan, as reviewed by the Medical Advisory Committee, April 24, 1985.

admission to LM are denied admission because they do not meet the medical criteria.[9] Those clients who are cleared for non-medical detoxification are returned to LM and admitted, often bringing medication with them. Once admitted to the facility, clients receive a shower, delousing, clean pajamas, and go to bed.

Treatment. There is no standard length of stay at LM, although the average is between five and seven days. Length of stay is determined on an individual basis, and may be extended for concrete services. LM is unique in this regard, in that clients may stay for indefinite periods if a counselor believes that releasing him/her would reduce the chances of recovery. In most cases, extended stays apply to individuals with post-detoxification referrals to residential treatment programs that do not currently have a bed available. In addition, if LM is attempting to help a client obtain welfare or housing, he may be allowed to stay while the forms are being processed.

For the first two days a client is in the program, his vital signs are taken every four to six hours. Those clients who are on medication or have problems during the detoxification period have their vital signs taken throughout their stay. In case of an emergency, the EMT on duty at the time will give emergency treatment and call 911 for an Emergency Medical Service (EMS) ambulance. Any time a client has a seizure, visual hallucinations, chest pains or fresh head trauma, the staff calls EMS.

[9]The Director who provided information for this report held this position throughout the research study period, but has since left.

LM staff members are dissatisfied with their dependence on EMS, indicating that (in their view) the response time is too long. Staff members also indicated that the EMS operators take emergency cases too lightly, sometimes refusing to provide care or an ambulance for a needy client. In such situations LM staff will arrange transportation on their own, and accompany the client to the hospital. Despite these elaborate provisions for emergencies, staff estimated that only one to two percent of LM clients have seizures, and another one percent have a condition warranting a hospital referral.

None of the LM clients receives medication for withdrawal; however, some kinds of medication may be taken during their detoxification stay if prescribed by a medical facility. These include anti-psychotic drugs, antibiotics, and medication for hypertension. The Director also indicated that some of the clients receive, diphenylhydantoin (Dilantin), which is effective for epileptic seizures, but <u>not</u> for alcohol-related seizures (Rothstein, 1973). The few clients who have epilepsy that is not controlled with Dilantin are allowed to take phenobarbital for their seizures.

Once the client feels well enough to be out of bed, he/she is expected to attend group counseling sessions. Five AA meetings are held each week at LM. There are also groups on problems in early sobriety, health education, "feelings focus," and art therapy. Each client meets with a counselor individually, at least once and up to three times during his/her stay at

LM. The Director estimated that 95% of the clients accept a post-detoxification referral. Of these, about 40% are to residential alcoholism treatment programs, primarily those run by New York State but some are referred to programs operated by the Veteran's Administration or by private hospitals. Another 25% of the clients are referred to non-rehabilitative residences, such as the Bowery Mission or Volunteers of America. Ten to fifteen percent are referred to outpatient programs, including that run by the Bowery Residents' Committee, and another 10%, primarily those who are currently employed, are referred to AA only.

Staff. The staff at LM consists of 14 members, more than 60% of whom are recovering alcoholics. It is notable that over 80% of the staff at LM are females, a fact which contributes to the warm -- at times, almost motherly -- interactions observed between staff and clients. Of the 14 staff members, nine are para-medically trained: licensed practical nurses, emergency medical technicians, or physician's assistants. The remaining staff members are alcoholism treatment counselors and administrative staff. As was indicated above, due to lack of funds, those clients who are further along in their recovery serve as cooks and maintenance workers.

Approach to rehabilitation and referral. The major goals of the program are to provide an effective, appropriate referral for post-detoxification treatment and to help the client to "reconstruct his life in an alcohol-free way." The approach used to reach these goals was described by the Director as,

"pragmatic," utilizing self-disclosure and AA-type modeling to show the client that sobriety is not impossible. As was indicated above, LM has succeeded more than the other non-medical program in the study (SS) in providing the warm, home-like atmosphere that social setting programs strive for. The staff members express a great deal of warm feelings toward the clients, speaking of the clients as their family. For long-time clients especially, the rules are sometimes stretched to admit a client who may not need detoxification, but needs support to remain sober.

A major characteristic of the program's philosophy involves retaining clients beyond a typical five- to seven-day detoxification period. There is a dearth of rehabilitation beds for indigent alcoholics in New York City, and the LM staff members work very hard to obtain those beds for their clients. If, for example, a counselor attempts to place a client in a State-run Alcohol Rehabilitation Unit (ARU) and is told a bed will be available in two weeks or is given an appointment for sometime in the future, the client is allowed to remain at LM until that bed is available. (While he/she is waiting for the bed, the client must, of course, remain sober.) It is this flexibility of length of stay that allows LM to successfully place its clients in residential treatment programs when other detoxification programs are less successful. One drawback to this approach is that the few beds at LM are nearly always full, and some individuals who need detoxification are unable to obtain services there because of lack of bed space.

Summary and Comparisons of the Facilities

The research was designed to compare the safety and efficacy of medical and non-medical detoxification for public inebriates. Toward this end, two types of medical detoxification were identified, freestanding and hospital-based, and these modalities were represented by the MB and BI programs. The original design called for one non-medical facility, SS, but after that facility closed, LM was designated as the non-medical study site. As can be seen from the description of the facilities, it would be simplistic to discuss the effects of medical and non-medical detoxification; rather, it is necessary to consider the idiosyncracies of the facilities and ascertain the extent to which it is possible to generalize from these four facilities to other medical and non-medical detoxification programs. In fact, while the use of two non-medical facilities was not part of the original study design, implementation of the research at LM provided insight into the possible variation among non-medical facilities. In addition, interviews were conducted with administrators of the other detoxification units in New York City to obtain descriptive data for comparison with the four study sites.[10]

[10]Attempts were made to interview at least one person from each detoxification program in the City, but despite repeated calls and letters, it proved impossible to reach anyone at the Manhattan Veterans' Administration Hospital. In addition, because the administrator at Regent Hospital was particularly unreceptive to a request that he provide readmissions data, and because Regent is an expensive, private, primarily drug treatment facility, all information about that facility was obtained from their brochure. The remaining 25 facilities provided interviews which proved to be very informative.

With regard to the physical area per person, SS was relatively spacious. MB and LM are fairly cramped and in many ways similar to other non-medical programs in the City. In general, New York's sobering up stations are located in older buildings in poor, run-down neighborhoods (e.g., the Bowery, the South Bronx, Bedford-Stuyvesant in Brooklyn, etc.). In addition to crowded dormitory space, the sobering up stations make do with only a day room or recreation area, attemping to provide a comfortable atmosphere within serious budget limitations.

MB stands apart from the other facilities, however, because of its modality and physical location. It is the only freestanding medical detoxification facility in the City and is the only detoxification center located in a City-run shelter building. All users of the MB detoxification program must pass through at least the first floor of the Men's Shelter, and the "Men's Shelter experience" can be shocking. Upon entering the building, one is immediately assaulted by the noise and the offensive smells of the homeless men waiting for services. The chaos is exemplified by the elevator; the call buttons do not operate, so the only way to summon the elevator is by pounding on the door and shouting one's location. No client of the Shelter or the detoxification program is permitted to use the elevator unless accompanied by a staff member. Therefore, unless accompanied by the rescue team, MB clients must walk up the stairs to the fourth floor, and many are frightened by the stories they have heard of violence in the stairwells. For those who negotiate these

obstacles the atmosphere of the detoxification program itself is not substantially different from that in the sobering up stations. The major ways in which MB differs from the sobering up stations are that MB is drearier and more institutional. Nurses are in evidence, and the clients are medicated, but no one would mistake the atmosphere at MB for that of a hospital.

The atmosphere at BI is markedly different from that at the other study sites: it is a very new, institutional hospital facility. Except for the newness, however, the atmosphere at BI is not different from that in many other hospital detoxification programs in the City. Each institution has its own policies regarding medication administered during detoxification, medical and financial requirements for admission, etc., but most of them have an antiseptic, institutional feel. This is more true of the private hospitals, which tend to require that their clients have insurance coverage (or self-pay) and, therefore, are more likely to treat middle-class alcoholics. In comparison, the municipal hospitals, which provide services to working- and lower-class populations, tend to be in older, dingier, more crowded settings.

With respect to admissions criteria, the New York City detoxification programs fall into three groups; these are composed of the non-medical facilities (sobering up stations), the public medical facilities (including MB and the municipal hospitals), and the private hospital facilities. All the non-medical facilities, including SS and LM, have triage plans by which they determine whether applicants are likely to be able to

go through withdrawal without medication. The specific criteria vary from program to program, but all have the goal of identifying those applicants for whom non-medical detoxification is too risky.

The public medical facilities have the least restrictive admissions criteria; because they have medical support and prescribe withdrawal medication, it is not necessary for them to take the precautions that the non-medical facilities take. Thus, these programs generally will admit any alcoholic in need of detoxification, and many will admit them while they are still intoxicated. There are no charges for treatment at MB, and therefore, no financial screening is necessary. The municipal hospitals are required to accept clients in need of detoxification, regardless of ability to pay. Most of these hospitals accept clients for detoxification, and later attempt to obtain Medicaid for those whose Medicaid has lapsed.

Beth Israel's admissions criteria are typical of those at the other private hospitals (both for-profit and not-for-profit) in New York City. These facilities have stringent medical and financial criteria, requiring that a patient either have active Medicaid (or other insurance coverage) and show symptoms of withdrawal, or be in need of emergency medical treatment. These requirements are based on the hospitals' need for reimbursement for costs incurred for each patient. The requirements for Medicaid reimbursement are particularly stringent and as a result, the most needy clients must pass the most rigorous tests to be admitted.

As can be seen from the descriptions of treatment in the four study sites, there is considerable variation from program to program. But when all the detoxification facilities in the City are taken into account and categorized into medical and non-medical, there are more apparent similarities than differences. That is, while there is variation among sobering up stations with respect to the medications they will allow clients to take for medical conditions or illnesses, none administers withdrawal medication. The non-medical facilities also differ with respect to the number of medical or para-medical staff members, but none has a full-time doctor on the staff.

In contrast, all of the medical detoxification programs (including MB and BI) have doctors and/or physician's assistants assigned to the detoxification unit. In these programs, most of the patient care is provided by nurses, while in the non-medical facilities most of the care is provided by counselors and some EMTs. While the specific drugs prescribed vary from facility to facility, withdrawal medication is available in all the medical detoxification programs. Some, like MB, prescribe medication (generally phenobarbital, Librium or Valium) for virtually all clients with decreasing dosage throughout the stay. Other programs, like BI, prescribe such medication only as needed, resulting in fewer clients being medicated for a shorter period. MB differs from the hospital-based medical programs in that more serious medical conditions cannot be treated on-site. For example, any patient with a condition requiring intravenous

treatment must be transferred to a hospital. MB is also limited by its lack of laboratory facilities; thus, clients in hospital-based detoxification programs receive more thorough medical tests than do those at MB. But the most critical distinctions appear to be between medical and non-medical programs, rather than among programs within a category.

While comparisons of programs with respect to physical space, admissions criteria, and treatment generally lend themselves to distinctions either between medical and non-medical or between public and private programs, these lines are blurred with respect to approaches to rehabilitation and referrals. Knowledge of the treatment philosophies of the four study sites was the product of extensive interactions between research and program staff, developing over the many months of the data collection process. Clearly, it was not possible to obtain this level of understanding in the one- to two-hour interviews conducted with the other 25 detoxification programs in the City. Attempts to quantify information on treatment approaches suggested a picture of great diversity. Among these facilities, for example, the number of times each patient meets individually with a counselor varies from zero to seven ($\bar{X}$=3.5); the number of group meetings ranges from zero to 15, ($\bar{X}$=8.3); and the number of AA meetings varies between one and eight, with a mean of 4.7. On the whole, the hospitals provided more counseling and AA sessions than did the non-medical facilities. The average number of individual sessions in the sobering up stations was 2.2,

(ranging from one to three). While the range of group sessions was wide (between one and 14), the mean, 4.6, was smaller than that at the hospitals. Manhattan Bowery, the lone freestanding medical detoxification program in New York City, differs from the hospitals and the non-medical facilities in that it provides fewer counseling sessions. MB clients generally have three individual counseling sessions, attend one group session, and go to two AA meetings during their five-day stay in the program.

Despite the differences between hospitals and non-medical facilities in numbers of counseling sessions offered, no such distinction can be made with regard to therapeutic techniques. All but one of the programs include motivating the client to accept post-detoxification treatment as one of the goals of their counseling, and about half the programs mention alcoholism education as part of the treatment. Five hospitals (two of them public and three private) mentioned involving the family in the treatment. No other general conclusions could be drawn from the responses to questions about therapeutic techniques.

The greater number of counseling sessions at the hospital facilities was probably partly due to the difference in average length of stay. At the hospitals, the average length of stay was 5.9 days, as compared to a mean of 4.8 days at the non-medical facilities. There was a very clear distinction between the medical and non-medical facilities with respect to conditions under which a client might be kept for longer than the standard detoxification period. Medical problems or difficult withdrawal

were the only reasons given by the medical facilities. In contrast, among the non-medical facilities, this reason was given only by SS; all of the other non-medical programs indicated that a client might be kept longer if space in a rehabilitation program might become available some time after the client would otherwise be discharged. (The length of time the program was willing to keep a client, however, varied considerably with the facility and the client.)

This difference between medical and non-medical facilities appears to be related to a difference in referral practices. The predominant type of post-detoxification referral made by the hospitals is to outpatient alcoholism treatment; on the average 55% of their clients receive such referrals. About one in four hospital detoxification clients are referred to residential alcohol treatment programs, and four percent are referred to non-rehabilitative or custodial facilities. The sobering up stations use outpatient programs less than the hospitals do, referring about 30% of their clients to such programs. About 28% of sobering up station clients are referred to residential rehabilitation programs and an additional 19% receive referrals to non-rehabilitative or custodial facilities. Although there are substantial differences between residential treatment facilities and custodial facilities, both provide the client with a bed. Thus, on a very simplistic level, it appears that the sobering up stations appear more concerned than the hospitals with providing their clients with shelter as part of their post-detoxification

care. This almost certainly reflects differences in populations served by the hospitals and the sobering up stations, with the sobering up stations treating a large number of homeless alcoholics for whom shelter is a major problem. (See "Detoxification Clients in Other Local Facilities: A Comparison" in Chapter VI below.) While the municipal hospitals serve some homeless people, the private hospitals serve very few (contrary to what one might expect, however, the municipal hospitals are no more likely than the private hospitals to make referrals to non-rehabilitative residences). MB does not fit well in this analysis -- its clients are almost exclusively public inebriates, but its referrals are almost exclusively to outpatient rehabilitation programs. As indicated above, MB's referral policies reflect a belief that repeated referrals to inpatient care are not rehabilitative, and may promote increased dependence on an institutionalized treatment system.

CHAPTER V:
IMPLEMENTATION

As would be expected in applied research, the procedures delineated in the proposal underwent some modification once they were implemented. Some of these modifications were attributable to incorrect assumptions about the population, and others to policies of the programs being studied. The actual procedures followed during the research, and the reasons for deviations from the original design are discussed below. Also presented is an assessment of the random assignment procedure.

Pilot test. In January 1984 the procedures described in the proposal and the instruments designed during the early months of the project were pilot tested. The major goals of the pilot test were to determine whether the consent protocols were adequate, the proportion of the MB and SS clients who would be eligible for the research and the percentage of the eligible clients who would agree to participate, and whether the assignment and transportation procedures would work satisfactorily.

One of the first goals of the pilot test was to evaluate the consent protocol. This entailed determining whether men who were intoxicated or in the early stages of withdrawal could understand the description of the research, and that their agreement to be in the research meant they were willing to go to any of the three study sites. The first potential pilot subjects demonstrated that it was relatively easy to determine whether an individual could comprehend the information being presented to him; those

who could not were considered ineligible for the research by virtue of being "incoherent." It was also discovered at this time that it was necessary to obtain consent in relative privacy because the decision to participate was easily influenced if the research was explained to one potential subject in the presence of other potential subjects.

A more serious problem that arose during this period was that there were some incompatibilities among the programs. For example, the SS program required that their clients be intoxicated at the time of admission, a rule that encouraged the rescue team to allow clients to drink in the car on the way to the program. This proved to be a problem for those subjects who entered at SS and were randomly assigned to detoxify at BI, as one of the requirements for admission to BI is that the individual be in withdrawal. The solution to this problem was two-pronged: the SS rescue team was asked to discontinue their practice of allowing men to drink in the car, and arrangements were made with BI to consider admitting for observation research subjects who were intoxicated. Under this arrangement, if a subject who was intoxicated at entry did not show signs of withdrawal within the 24-hour observation period, BI would determine that he was not in need of detoxification and discharge him.

Another problem of this type was MB's relatively lenient admissions criteria, which were the result of the belief of the staff at MB that the facility is a last resort for a very needy population. This led to persons not in need of detoxification

being accepted at MB, and if assigned to either SS or BI they would be rejected. This problem was handled during the pilot period by training the site researchers to be sensitive to the needs of the research and to classify sober applicants as ineligible for the research by virtue of not being in need of detoxification.

The random assignment procedures hinged on the rescue teams being available to transport research subjects among facilities. While the Manhattan Bowery Corporation administrators were very cooperative in making the rescue teams available to the research, the standard operating procedure of these teams was not always in harmony with the needs of the research. In addition to delivering research subjects, the rescue teams had program responsibilities such as transporting clients to and from a hospital or medical clinics. This would result in unavailability of the rescue team to the research for extended periods. While these problems were never completely solved, eventually the rescue teams modified their normal routines in response to the research, and the research procedures were adjusted to present as little disruption as possible.

Thus, it is clear that the early experiences of the pilot study informed the research procedures, and produced some changes both in them and in the operating procedures of the detoxification programs. This period of learning and adjustment, combined with training the site researchers, continued until mid-February 1984, when the research began. In the months that followed,

adjustments continued to be made to the research process to facilitate smooth operations of both research and program, while retaining the integrity of the design.

Eligibility screening. Using what was learned during the pilot test, site researchers were trained to identify those applicants for detoxification who were ineligible for the research. The eligibility screening, described in Chapter V, yielded 259 instances in which an applicant was judged ineligible for reasons other than having already been in the research.[11] The reasons for ineligibility and frequency of their occurrence are presented in Table V-1 below. Regardless of the reason for this status, ineligible clients were turned over to the program admissions staff to handle as they saw fit.

[11]These 259 instances may not represent 259 different people. Each time an applicant walked in or was brought in by the rescue team, the site researcher would see him and evaluate his eligibility. Thus, the same man could have come in on two or more occasions and each time been judged too incoherent to give consent. On the other hand, an applicant who had previously been judged ineligible could later apply and be considered eligible. Each instance of ineligibility was tabulated, regardless of the identity of the applicant, because this method gives a more accurate picture of the process.

Table V-1

Reasons for Ineligibility

Reason	Frequency	Percent of Ineligibles (N=259)	Percent of Total Intake Contacts (N=1344)
Incoherent	82	32	6
Not in need of detoxification	52	20	4
Drug addict	46	18	3
Needs medical care[a]	39	15	3
Needs medical detoxification	11	4	1
Does not speak English[b]	11	4	1
Other	18	7	1

[a]Reasons for needing medical care included recent heart attack, lacerations requiring stitches, ulcerated legs, apparent psychotic behavior.
[b]The great majority of these clients were Spanish-speaking, and if the site researcher was able to find an interpreter, the client was considered eligible.

Respondent rejects. In the original research proposal it had been anticipated that approximately 5% of the eligible applicants would refuse to be in the research. The actual percentage of respondent rejects was 38%, or 414 individuals. This was a problem for the research because it raised questions about the generalizability of the results that could be obtained from the remaining 62% of the sample. Statistical comparisons between demographic characteristics of respondent rejects and consenters revealed little difference between these two groups. As is discussed in Chapter VI, these results provide assurance that the

tests conducted on the consenters are generalizable to the larger public inebriate population who seek detoxification services.

However, because respondent rejects were admitted to the entry facility, the high refusal rate also had the effect of reducing the flow of subjects into the research. This reduced rate of entry, combined with other factors which are described below, necessitated extending the research intake to 11 months, from the initially anticipated five months. Because the pool of individuals from which MB and SS draw their clients is finite and because each individual could be in the research only once (including the time he refused), the high refusal rate led to an even slower rate of subjects entering the research.

Random assignment. As was described in Chapter III above, site researchers were stationed at each intake site (MB and SS during the early months of the research and MB and LM during the later months). Whenever one of them obtained consent from a subject, (s)he would call the Vera Research office for the assignment. There, a research staff member would consult a random number table to determine the assignment and would also determine whether a bed was available at the assigned site. In the early days of the research, as long as a bed was available at the assigned site, the rescue team would deliver the subjects there. It was soon discovered, however, that the stringent admissions criteria employed at BI resulted in a high percentage of subjects being transported to BI, waiting to be screened, and then being rejected on either medical or financial grounds (see Chapter IV).

The result was that special procedures were developed for screening subjects assigned to BI prior to transporting them there.

A list of adequate forms of indentification was obtained from BI, and the site researchers were trained to do additional screening for subjects assigned there. A process was devised whereby, based on the subject's vital signs (measured at the entry facility) and the identification he had in his possession, the BI site researcher would discuss the case with BI admitting staff and make a judgment about the likelihood of that subject being admitted to BI. If it appeared unlikely, the researcher at the entry site was instructed to classify the subject untreated (which meant he would detoxify at the entry facility). These procedures greatly reduced the number of men who were transported to BI and subsequently refused admission there. The research staff was confident that this process produced very few untreated subjects who would have been admitted if they had been sent to BI. At the end of the research intake process, there were 167 untreated BI subjects and 50 treated subjects. Characteristics of these two groups of subjects are compared in Chapter VII below.

Closing of Social Setting. The intake process continued for 19 weeks as described above with only minor modifications, until SS was forced to close because the building in which it was housed had been sold. At that time site researchers had spoken to some 619 eligible men and obtained consent from 337 (55%) of them. Of these, 244 were treated subjects: 124 at MB, 82 at SS, and 38 at BI. Although approximately equal numbers were assigned to the

three facilities, the percentage of assigned subjects who were actually treated at those facilities varied. (The numbers of and reasons for untreated subjects at BI have already been discussed.) Although the results of the random assignment process are described below, it should be noted that 17 of the subjects assigned to SS were untreated, most because they needed medical care, and one subject was refused admission to SS because all the beds were full. In contrast, at the same point in time, only one subject was untreated at MB and three were research rejects. In addition, 11 subjects assigned to MB and 19 assigned to SS rescinded their agreement after assignment, and became respondent rejects. The research staff determined that the numbers of treated subjects at the three sites would not provide sufficient statistical power to carry out the proposed data analyses, and therefore, concluded it would be necessary to continue intake. At first the Manhattan Bowery Corporation believed that SS would soon reopen in a new location, but it eventually became clear that SS would be unable to open in the near future, and the research staff sought the cooperation of another non-medical facility to serve as a study site.

Such an agreement was obtained from LM, and assignments there began on October 1, 1984 (Week 33 of research intake). Clearly, this change necessitated rigorous data analyses to determine whether the subjects assigned to LM were equivalent (prior to treatment) to those assigned to SS. It was also necessary to evaluate the treatment provided at these two facilities to

ascertain whether they were comparable. If the results of such analyses indicated that the subjects and treatment at SS and LM were indeed equivalent, the two sites would be combined in the outcome analyses to represent the non-medical detoxification modality. Alternatively, the research design would have to be modified to include LM as an additional level of the treatment modality variable. The results of these analyses are presented in Chapter VII.

The addition of LM as a research site affected the research process: (1) because its triage plan differed from that of SS, subjects assigned to LM required additional screening; (2) because its capacity was lower and clients were kept longer, there were fewer beds available for research subjects; (3) because it has no rescue team, the MB rescue team would be responsible for all transportation.[12] The additional screening was done only on those subjects who were assigned to LM, and involved asking the subject whether he had a history of seizures, high blood pressure, diabetes, use of mood altering drugs, or psychiatric hospitalization. His responses to these questions, and his age (if over 65), would determine whether LM would require medical clearance before they would admit him. Those subjects who needed medical clearance were generally transported (by LM staff) to NENA, a neighborhood outpatient clinic. The reduced bed capacity and, to a lesser extent, the lack of a rescue team at LM contributed to a

[12]LM is located only a few blocks from MB, so many subjects could be walked from one facility to the other. In general then, the MB rescue team was responsible for bringing subjects in and transporting those assigned to BI.

slower flow of subjects into the research. And, for these and other reasons, the most important effect of adding the LM facility was that it required that the intake period continue far longer than was originally anticipated. Thus, intake continued until January 31, 1985. By this time, there had been 224 subjects treated at MB, 82 at SS, 50 at BI, and 45 at LM.

Validity of the random assignment procedure. As was indicated above, the research was designed to be a controlled study of medical and non-medical detoxification. As part of this design, random assignment procedures were developed to ensure that the clients assigned to each of the study sites would be equivalent at intake. Eligible subjects were assigned to facilities by Vera research staff using a table of random numbers, and basic demographic data were collected on all assigned subjects, regardless of whether they were treated at the assigned site.

To ascertain whether the assignment process was successful, statistical tests were computed on basic demographics (age, ethnicity, marital status, residence, employment status, and education), drinking history (SMAST score, number of previous detoxifications, days since the last detoxification, and number of drugs taken during the past year), and condition at intake (temperature and pulse). Each of the categorical variables was crosstabulated with assignment site, and chi square was computed. One way analyses of variance were computed on the continuous variables; for those analyses that yielded significant overall F-tests, multiple comparison tests (Tukey's HSD) were computed to determine where the differences lay.

There were no significant differences among the sites on age, ethnicity, or marital status. Chi square analyses on residence and education indicated significant relationships with assigned site. However, as can be seen from Tables V-2 and V-3 below, these effects were small. The major contributor to the

Table V-2

Residence by Assigned Site[a]
(in percentages)

	Assignment Site			
Residence	MB (N=228)	SS (N=136)	BI (N=220)	LM (N=87)
Homeless	82	83	75	67
SRO or mission	11	10	14	14
Private Home	7	7	11	20

[a] $\chi^2=14.43$, df=6, $p<.05$, Cramer's V=.15.

significant effect on residence was that more subjects assigned to LM lived in private homes and fewer were homeless than at the other three facilities. With regard to the last grade in school completed, the sites were fairly uniform with the exception that subjects assigned to MB had slightly less education. While 17% of the LM and BI subjects and 15% of the SS subjects had some education beyond high school, only 7% of the MB subjects had attained this level of education. These effects (on residence and education) seem neither strong nor consistent, and therefore do not pose a threat to the validity of the random assignment.

Table V-3

Education by Assigned Site[a]
(in percentages)

Last Grade Completed	Assignment Site MB (N=227)	SS (N=134)	BI (N=217)	LM (N=86)
Six	5	6	8	7
Seven - nine	25	19	21	15
Some high school	31	25	33	27
High school grad.	32	34	22	33
Post high school	7	15	17	17

[a] χ^2=23.17, df=12, p<.05, Cramer's V=.19.

The remaining demographic variable was employment status at the time the subject entered the research. Because of the size and the distribution of the sample, it was not possible to compute a valid chi square test on the table of assignment site by employment. However, inspection revealed little difference among the subjects assigned to the four sites: 97% of those assigned to MB, 90% of those assigned to SS, 91% of those assigned to BI, and 99% of the LM subjects reported being unemployed at the time they entered the research.

Significance tests on the four drinking history variables revealed no differences among subjects assigned to the four sites on their SMAST scores, number of previous detoxifications, or number of days since the last detoxification. An analysis of variance revealed a significant site effect on number of drugs

taken in the preceding year ($F(3,668)=5.86$, $p<.001$); however, the effect was quite weak and explained only three percent of the variance. Tukey's HSD revealed that SS subjects had taken significantly fewer drugs ($\bar{X}=0.49$, sd=0.95) than those at either MB ($\bar{X}=1.04$, sd=1.54) or BI ($\bar{X}=1.05$, sd=1.52). None of the other differences was significant. (The mean for LM subjects was 0.75 and the standard deviation was 1.34.) It is clear from these data that, not only is the site effect small, but there is substantial variation within each site on the number of drugs taken.

Finally, to determine whether the men assigned to the various sites were in comparable condition at the time they entered the study, analyses of variance were computed on temperature and pulse at intake. These analyses revealed significant but small effects that were not consistent with each other. The analysis of variance ($F(3,581)=12.13$, $p<.0001$, $R^2=.06$) and multiple comparisons on temperature revealed that subjects assigned to MB had significantly higher mean temperature than those assigned to the other three sites. The analysis on pulse ($F(3,590)=2.93$, $p<.05$, $R^2=.01$) revealed that subjects assigned to BI had higher mean pulse than those assigned to MB; none of the other differences was significant. The means and standard deviations for temperature and pulse at intake are presented in Table V-4. It is clear from the table that the differences are quite small; the significant effects are likely due in large part to the relatively large sample size.

Table V-4

Assigned Site by Temperature and Pulse

Assignment Site	Vital Signs: Temperature Mean	Temperature SD	Pulse Mean	Pulse SD
MB (N=226)	99.2	1.02	88	14.4
SS (N= 89)	98.5	0.75	92	12.4
BI (N=211)	98.9	0.97	92	16.1
LM (N= 69)	98.8	0.93	88	14.7

Taken as a whole, the 12 analyses performed to determine whether the random assignment procedure was effective produced five significant effects, six non-significant effects, and one table with expected frequencies too small to allow a significance test. All of the significant effects were quite small, and there were no consistent effects. Therefore, it appears that the subjects assigned to the four sites were equivalent at the time of assignment. The effects on this equivalence of differential admissions criteria are discussed below.

CHAPTER VI:
DESCRIPTION OF ELIGIBLE SUBJECTS

Site researchers at the three intake sites spoke with a total of 1085 men who were judged eligible for the research. Of these eligible subjects, 671, or 61.8%, agreed to participate in the study. As discussed in Chapter V, this was a greater rate of refusal than originally anticipated, and raised concerns about self-selection factors that may have biased the research sample. Due to these concerns, initial analyses focused on comparisons between the research sample (the "consenters" who agreed to be in the research) and those who refused ("respondent rejects"), and the reasons given for refusing to participate. Critical characteristics of the research sample -- demographics, socioeconomic indicators, drinking and treatment history -- were then assessed for descriptive purposes. For purposes of comparing the study sample to the client population at other detoxification facilities in New York City, administrators and other staff members at these facilities were queried. At the end of this section is a brief description of the client information obtained in these interviews, and the similarities and differences between these programs' clientele and those individuals participating in the research.

Consenters vs. respondent rejects. Because they refused to participate in the research, the data obtained from respondent rejects were limited to age, race/ethnicity, residence status (whether, where and how long they were domiciled), and their stated reasons for not participating. In addition, to test any differences

in their initial condition of withdrawal, vital signs at intake were collected on a sample of respondent rejects who entered and detoxified at the Manhattan Bowery facility.[13]

Respondent rejects were slightly older ($\bar{X}$=43.3) than consenters ($\bar{X}$=41.9; t=2.05, df=1084, p<.05), and a chi square test revealed a significant relationship between race/ethnicity and agreement to participate (χ^2=13.4, df=2, p<.005). A greater proportion of blacks agreed to be in the research (68.8%), than did whites (57.9%) or Hispanics (57.4%). This may be attributable to the fact that the site researcher at MB (where 75% of all entrants came into the research) had an especially good rapport with blacks, and was more likely to obtain their consent. Regardless of the reason, this finding suggests that blacks may be slightly overrepresented in the research sample. This issue is dealt with further in the descriptive section below.

No relationship was revealed between participation and residence data. The refusal rate was approximately the same for individuals who were homeless (37%), living in SROs or missions (41%), or living in private homes (37%). An analysis of the length of time associated with current residence status found no difference between subjects who agreed to participate and those who refused; the mean for each group was 18.1 months.

Each respondent reject was asked why he did not want to participate in the research, with up to seven reasons recorded for each person. The most common explanation given for refusal to

[13]Vital signs data were not collected on respondent rejects at SS or LM because of these programs' non-medical orientation.

participate was a special preference for the entry facility. As shown in Table VI-1, MB and SS respondent rejects differed somewhat on this response, with a greater proportion of those entering at MB giving preference for that site as a reason for refusal. Greater differences were apparent between these two entry sites with regard to the other reasons offered for refusing to participate. The majority of MB respondent rejects said they were concerned with the severity of their withdrawal and were opposed to non-medical detoxification (but not to SS or LM in particular). In contrast, 63% of the SS respondent rejects (and 4 of the 7 at Lower Manhattan) were opposed to MB as a detoxification facility. Only 6 of the respondent rejects, all entering at SS, stated their opposition was to medical detoxification in general.

The fact that many MB respondent rejects reported being "too sick" to take the chance of being randomly assigned to a non-medical detoxification program raises an important question about the limits of non-medical detoxification for this population, and bears further analysis. The need for this analysis was reinforced when MB site researchers reported that they observed many MB clients exaggerating the severity of their withdrawal at intake. This seemed especially true of individuals who had used MB on many occasions in the past, "knew the ropes," and thought this response would enhance their chances for getting into the MB program ("I've really got it bad, man -- you got to get me in a bed, quick").

Table VI-1

Reasons for Refusal to Participate by Entry Site[a]
(in percentages)

Reason for refusal	Entry Site MB (N=303)	SS (N=100)	LM (N=7)	Total (N=410)
Opposed to:				
Medical detox.		6.0		1.5
Non-med. detox.	54.5			40.2
MB		63.0	57.1	16.3
SS or LM	3.7			2.7
BI	3.0	4.0		3.2
Prefers entry site	61.1	41.0	28.6	55.6
Concerned with severity of withdrawal	64.0			47.4
Other	12.6	16.0	42.8	14.0

[a]Respondents could provide more than one reason for refusal to participate.

Two analyses were performed to test the hypothesis that the withdrawal condition of respondent rejects was no worse than consenters, and that those who refused were simply more familiar with the entry facility. For 230 of the 304 respondent rejects who entered and detoxified at MB, data on temperature, pulse, and blood pressure at intake were collected and compared to consenters' intake

vital signs. No differences were found on systolic blood pressure, and the differences revealed on the other three variables were very small, and in one case, contradictory. Respondent rejects had higher mean pulse ($\bar{X}_r$=93.0; $\bar{X}_c$=90.2; t=2.37, df=822, p<.05;) and their average temperature was slightly higher than consenters' ($\bar{X}_r$=99.3; $\bar{X}_c$=99.0; t=4.57, df=813, p<.001). Differences on diastolic blood pressure were also significant (t=2.61, df=725, p<.01), however, respondent rejects were found to have lower average diastolic blood pressure than consenters ($\bar{X}_r$=79.2; $\bar{X}_c$=82.0).

Analysis of the number of prior admissions to the entry facility for those refusing and those agreeing to be in the research revealed a possible alternative explanation for non-participation. Respondent rejects had significantly more prior admissions to the entry site than did consenters ($\bar{X}_r$=10.5; $\bar{X}_c$=5.87; t=5.68, df=916, p<.001). The fact that respondent rejects averaged almost twice as many prior admissions to the entry facility as did consenters is consistent with a finding reported earlier, that the most common explanation for refusal to participate was a special preference for the entry facility.

In conclusion, the analysis of subjects' intake vital signs offers little evidence for the argument that respondent rejects as a group were experiencing more severe withdrawal or were unable to tolerate non-medical detoxification. While self-reports indicated that these men perceived themselves to need medical detoxification, it is more likely that their refusal to participate is the result of a desire to stay at the familiar entry facility and not chance the

possibility of assignment elsewhere. This is not to say that some respondent rejects (some subgroup of the 194 subjects who said they were concerned with the severity of their withdrawal) were truly in need of medical detoxification; indeed, it is important to attempt to identify these individuals and estimate the size of this subgroup. For the treated subjects, this question is considered in Chapter VIII, in the section on the safety of non-medical detoxification.

The research sample: Demographic and background data. A total of 671 men agreed to participate in the research. At the entry site researchers recorded information on the subject's age, race/ethnicity, and residence status. Basic background data (education, occupation, etc.) were collected on consenting subjects after their assignment to a treatment site.[14] This information was typically obtained by the site researcher at the assignment site, after the client was placed in a bed and appeared comfortable and coherent. If the client was not admitted to the assigned site, these data were collected after he was comfortable at the entry site.

As noted above, the mean age of research subjects was 41.9, with a median age of 40. The sample was comprised of almost equal numbers of blacks (289, 43.0% of the total) and whites (280, 41.7%). There were 101 Hispanics (15.1%).

[14]The frequencies reported in the following discussion do not always sum to 671 due to missing data on some subjects. Except in the case of the client's occupation (where 6.5% of the subjects had no occupation reported) less than 2% of the sample were missing on any of the variables reported here.

More than three-quarters of the subjects (77.8%) reported that they had been homeless prior to entering the detoxification facility. Typically, these men would describe themselves as "living on the street," with occasional, brief stays at public shelters. The average length of time they reported being homeless prior to the current detoxification was 14.3 months. Of the remaining subjects, similar numbers had been residing in single room occupancy hotels (SRO) or missions (11.9%), or in private residences (10.1%). Stays at these residences were fairly long term, averaging 25.1 months at SROs and missions, and 38.6 months in private homes.

In addition to being predominantly homeless, data related to socioeconomic status reinforced the impression that the research sample constituted a contemporary variation on the classic Skid Row population. More than two-thirds (69.5%) of the men had spent some time in jail. Only 3.5% of these men were currently holding full- or part-time jobs; 93.8% were unemployed, and 2.6% were disabled or retired. When asked what their most consistent occupation had been in the past (their "primary occupation" throughout their lives), almost 75% of them could be classified as laborers (36.4%), service workers (23.1%), or operatives (14.3%). The next largest occupational groups were skilled (12.4%) and clerical workers (7.6%), with professionals, managers and sales workers accounting for less than 10% of the sample.

Table VI-2 shows the distribution of subjects' current major source of income. The most commonly reported income source was panhandling, and 13.6% of the men indicated they had simply "no income," legitimate or otherwise. This group apparently depends

entirely on soup kitchens and shelters for their survival needs. A more specific question on welfare revealed that less than one-fifth of the men received welfare or income maintenance of any kind (9.9% were on home relief, 8.0% received SSI), despite their clearly impoverished condition. Similarly, just 20.1% had public medical insurance, with almost all of these on Medicaid (18.6%) rather than Medicare (1.5%). Five percent had some form of private or "other" medical insurance, and 75.2% currently had no medical insurance of any kind.

Table VI-2

Current Income

Source	Frequency (N=665)	Percent
Regular job	19	2.8
"Spot" job	51	7.7
Family	4	0.6
Welfare	72	10.8
Pension	74	11.1
Insurance	5	0.8
Savings	9	1.4
Panhandling	261	39.2
"Hustling"	52	7.8
None	91	13.7
Other	27	4.1

Subjects were asked to specify the last grade in school they had completed, and their responses were grouped into the categories shown in Table VI-3. The results were somewhat surprising, with about 40% of the men having graduated from high school or having attended college for some time.

Table VI-3

Educational Background

Last grade completed	Frequency (N=664)	Percent
Six	43	6.5
Seven - nine	140	21.1
Some high school	198	29.8
High school grad.	195	29.4
Some college	68	10.2
College grad.	16	2.4
Post graduate	4	0.6

About half of the men (52.9%) were single, 37.0% were divorced and 4.5% were widowed. Only 3.2% said they were currently married, and 2.4% were cohabiting. Each of the subjects was also asked to indicate the extent of his contact with family members in the past year. Site researchers coded responses on a four-point scale, revealing that 38.5% of the men reported no contact, and 20.8% had frequent contact. Twenty percent saw or spoke with a family member on an infrequent basis, and 20.9% had slightly more contact, characterized as occasional.

Substance abuse history. More complete information including drinking and alcoholism treatment history, and medical, psychiatric, and drug abuse history, was collected on a slightly smaller number of subjects than was the information presented above. This was because some clients were not admitted to the assigned site due to the unavailability of a bed at that facility. Further data were not collected on these "research rejects," which included 57 of the 671 individuals in the original research sample. The following discussion applies to the remaining 614 subjects, with occasional instances of missing data.

The Short Michigan Alcoholism Screening Test (SMAST; Selzer et al., 1975) was administered to verify that these subjects were indeed drawn from an alcoholic population. The mean SMAST score for the 608 men responding to all 13 items on this scale was 9.34 (sd=2.84), and over 85% of the men scored 6 or above, which is twice the recommended criterion score (3) for alcoholism. Subjects were also asked at what age they had begun drinking heavily. An analysis of their responses revealed a median age of 20, and 18 years of heavy drinking. About one-quarter of the sample indicated that they had never had a period of sobriety lasting for at least one month. Over 50% of the men had not had at least a month-long period of sobriety in the past year (the mean number of months since this period ended was 38.0, sd=57.4). The median number of months of sobriety for those who had had such a period was 8 ($\bar{X}$=14.3, sd=20.1).

To use the Bowery vernacular, 13.2% of the sample were "virgins," individuals who had never detoxified previously. The

median number of prior detoxifications for all subjects was 7, and with 5% of the men reporting more than 50 previous detoxifications (8 men said they'd detoxified over 100 times), the mean number of detoxifications was 14.4 (sd=20.1). The chronicity of the sample was further indicated by the fact that, for those men who had detoxified at least once before (N=532), the median number of days since their last detoxification was 139 ($\bar{X}$=341.6, sd=573.7), or about 4 1/2 months. In addition, 17.6% of the men admitted detoxifying within the last 30 days, 31.6% within 60 days, and 41.7% within 90 days. Apparently, most of these men frequent the same "doors" repeatedly, as about 60% of the men reported that their last detoxification had been at one of the facilities participating in the research (see Table VI-4).

Table VI-4

Previous Detoxification Program Attended

Site	Frequency (N=526)	Percent
MB	213	40.5
SS	64	12.2
LM	22	4.2
BI	23	4.4
Other medical	155	29.5
Other non-medical	49	9.3

As would be expected from their detoxification history, most of the men reported experiencing fairly severe withdrawal symptoms

at some time in their past. All but a few (5.7%) said they had had "the shakes," i.e., had experienced tremors as a result of withdrawal from alcohol. Fifty-two percent reported having some history of hallucinations while withdrawing. Alcohol-related seizures were experienced by 29.8% of the sample, and 31.4% said they had had "the d.t.'s" at some point in the past. Undoubtedly, most subjects' assessment of delirium tremens is considerably exaggerated and medically inappropriate; this self-report statistic should probably be regarded as referring to individuals who experienced particularly severe withdrawal, with disorientation, tremors and sweating, and perhaps seizures.

The men were interviewed and their program files checked for data related to alcoholism treatment other than detoxification. In general, these data were somewhat surprising in that they revealed less involvement with post-detoxification alcoholism treatment than would be expected from such extensive histories of detoxification. Just over one-third of the men (38.0%) had ever attended a residential alcoholism treatment program. Seven percent had been in residential programs twice, and 2% had been in such programs on three or more occasions. A similar number (37.4%) had attended outpatient programs, with 5.5% attending such programs on two occasions. Only six men (1%) reported attending outpatient programs for three or more separate enrollments.

It should be noted that these numbers do not reflect those occasions when a man had accepted a post-detoxification treatment referral, made one visit to the program, but subsequently dropped out of treatment. The large numbers of men who reported having

used disulfiram (Antabuse) at some time in the past (52.8%) suggest that many more of these men made at least some attempt at post-detoxification rehabilitation, as disulfiram is often given to these clients on a first visit to an outpatient program. The smaller numbers given above for actual attendence (37-38%) include only those individuals who could be considered as having made at least some progress in a rehabilitation program.

Subjects were also asked to describe the frequency with which they had attended Alcoholics Anonymous (AA) groups in the past two years, discounting attendance while in detoxification or inpatient treatment. Fifty-eight percent indicated that they had attended AA at least a few times during that time period, and 19.1% said they had attended frequently.

Table VI-5 presents substance abuse history data, based on the subjects' self-report. The men were asked about the extent of their use of each drug, and when they had last used each drug most heavily. Their responses were coded for heaviest use, as either "none," "sporadic," "regularly," or "says he was addicted." If, for example, a man indicated that the most he had ever used cocaine was "regularly," and his most recent regular use ended eight months ago, these data would be recorded.

The substance abuse histories collected on this sample clearly contrast with the earlier, stereotyped image of the "straight alcoholic" Skid Row inebriate. A substantial number of the men, 22.7%, reported having attended drug treatment programs. Almost one-third of the men were regular or addictive users of

Table VI-5

Extent of Drug Use[a]
(in percentages)

Drug	Any use ever	Regular use ever[b]	Any used, past year	Any used, past month
Heroin	39.6	32.1	10.1	4.5
Cocaine	40.1	25.8	19.3	9.4
Methadone	14.2	12.9	2.8	1.0
"Street" methadone	12.6	7.4	5.0	2.5
Barbiturates	13.9	8.2	4.7	3.5
Amphetamines	12.8	7.0	2.8	1.5
Hallucinogens	10.6	4.2	1.7	.2
Tranquilizers	19.8	11.5	11.2	7.2
Marijuana	47.1	18.1	39.3	34.5

[a]Numbers range from 596 to 601, depending on amount of missing data.
[b]Includes only those individuals reporting "regular" or "addictive" use of drug.

heroin at one time, with one-fourth indicating similar use of cocaine. The data on drug use in the past year and the past month also suggest that this use is probably ongoing; that is, these are not alcoholics who "experiment" with another substance, but return to alcohol as their sole drug of choice. The method used to code these data would tend to underestimate current use, since only heaviest use was recorded. If a man still used a drug, but at a lower level than at some time previously (if, in the example

above, the man still used cocaine sporadically), this information would not be recorded. With this in mind, at least 10 to 20% of the men used cocaine, heroin, and/or tranquilizers[15] in the past year, and 5 to 10% used these substances in the month prior to this detoxification. Marijuana appears to be a common element in the lives of over one-third of these men.

To assess abuse of multiple substances, the number of drugs used in the past year were counted for each subject. About one-half (48.2%) of the men reported some substance abuse (in addition to alcohol), and 27.7% had used two or more drugs during the past year. Abuse of three substances was reported by 7.5% of the men, with 3.7% using four drugs and 3.2% using five or more drugs in this time period.

Medical and psychiatric history. The subjects' medical histories were obtained through investigations of client files kept by the program staffs at the study sites (depending on the item, data were available on between 606 and 608 subjects). It was decided to collect this information from files rather than through self-report, so that hypothesized record-keeping differences between non-medical and medical programs could be assessed. It was the policy of all four study sites to obtain such data on each visit made by a client, although site researchers noted that occasionally program staff would not collect this information if a man was returning to the detoxification program after a recent prior visit. For this reason there may be slight underestimates

[15] These were typically street-purchased Valium. Prescribed drugs were not counted in any of these figures.

in the data reported in Table VI-6, which presents the frequencies and proportions of men with any history of the physical problems listed.[16] There may also be some program differences in these data due to different interviewing procedures, medical practices, recording methods, etc. Since the purpose of the present discussion is to provide a description of the study sample, program differences are addressed in a later section.

As reflected in the Table VI-6, the medical histories of these men are consistent with those expected of an impoverished, alcoholic population. In particular, the proportions suffering from lung and GI disorders, and tuberculosis, venereal diseases, and skin diseases, are considerably larger than those observed in studies of the general population. Especially significant are the numbers of men with such chronic conditions as GI diseases, hypertension, and heart disorders. In a middle-class population, these conditions are typically treated and monitored on a regularly scheduled, outpatient basis; it is unlikely that the kind of care such conditions require is obtained by the men in this study. While these data can offer no confirmation in this regard, medical histories at least suggest that the combination of chronic alcoholism and indigence has made these men both more vulnerable to serious physical problems, and less likely to get appropriate medical care for these problems.

[16] If less than three percent of the sample had a history of a particular problem, these problems were not included in this table. Such problems include: edema or swelling (1.8%), chronic lacerations (1.5%), chronic head trauma (2.8%), diabetes (1.3%), blood diseases (1.2%), cancers (0.3%), missing limbs (1.2%), and rheumatic fever (0.5%).

Table VI-6

Medical History

Physical problem	Frequency	Percent
Stab wounds	38	6.3
Fractures	32	5.3
Surgical history[a]	78	12.8
Hernia	26	4.3
Tuberculosis	39	6.4
Respiratory disorders[b]	185	30.4
Heart disorders[c]	34	5.6
GI diseases[d]	164	27.1
Hypertension	94	15.5
Seizure disorder	78	12.9
Venereal diseases	72	11.8
Eye, ear disorders	32	7.1
Skin diseases	43	7.1
(One or more problems)	(482)	(79.3)

[a]These operations may be included in other frequencies reported in the table, e.g., hernia, GI diseases.
[b]Includes, e.g., pneumonia, bronchitis, asthma, emphysema, silicoses.
[c]Includes history of any heart problem, e.g., heart attack.
[d]Includes, e.g., fatty or cirrhotic liver, ulcer, GI bleeding, hepatitis, gastrectomy, gall bladder or spleen disorders, etc.

All subjects were also asked about psychiatric hospitalization. In asking this question the site researcher made a special effort

to get the respondent to distinguish psychiatric treatment from alcohol-related hospital visits, especially in facilities that are popularly known as "psychiatric" hospitals, such as Bellevue Hospital in New York City. Fifteen percent of the men reported some hospitalization for a psychiatric problem. About half of these men reported two or more hospitalizations, and three percent of the men had been hospitalized on four or more occasions. Of those men who had been hospitalized for psychiatric care, the median time spent in treatment was about two and a half months. Just over four percent of the men had spent six months or more in hospitalized psychiatric care. This figure is consistent with data obtained from program files, which showed 4.7% of the men having a clinically diagnosed psychiatric disorder.

Multivariate analysis of number of previous detoxifications. In an attempt to further describe the sample, a hierarchical multiple regression analysis was run on the number of detoxifications prior to becoming a research subject. As was discussed above, this number ranged from zero (for 13.2% of the sample) to more than 50 (for 5% of the sample). Included in the initial regression equation were 12 variables which logically might predict number of previous detoxifications. These variables were age at entry; race; score on the SMAST; years of heavy drinking; homelessness; amount of family contact; number of types of drugs used within the past 12 months; number of problems noted in the subject's most recent medical history; number of times in residential alcoholism treatment programs; number of times in

outpatient alcoholism treatment programs; and whether the subject had ever been in a drug treatment program. The homelessness variable is a dichotomous indicator of whether the subject reported being homeless at the time he entered the research. (The other variables in the analysis have been described in earlier sections of this report, and these descriptions need not be repeated here.) The analysis yielded a squared multiple correlation (R^2) of .21 ($F(12,563)=12.80$, $p<.001$); however, it was clear from inspection that many of the variables accounted for negligible amounts of variance in the number of previous detoxifications.[17] The analysis was re-run, eliminating any predictor that accounted for less than one percent of the variance.

The final regression analysis included the seven variables that appear in Table VI-7 below, and yielded an R^2 of .19 ($F(7,585)=20.22$, $p<.001$). The results indicated that the best predictor of how many times a subject had detoxified prior to entering the research was how many times he had been in residential alcoholism treatment. This variable accounted for seven percent of the variance, despite the fact that it entered the equation after age, race, and SMAST score. As would be expected, older members of the sample were likely to have detoxified more times than were younger members, and those with

[17] Because of the large sample size for this analysis (N=576), the partial correlations for some of the dropped predictors with the dependent variable were statistically significant. Therefore, the criterion used to determine which variables were retained and which were dropped was one of "meaningfulness"; any variable that accounted for less than one percent of the variance was dropped. For dummy variables, if the entire set accounted for less than one percent of the variance, the set was dropped.

higher SMAST scores were likely to have detoxified more frequently. (But counter to expectations, the number of years an individual had been drinking heavily accounted for less than one percent of the variance and was dropped from the equation.) Race also predicted number of prior detoxifications, with white sample members being likely to have detoxified more times than either black or Hispanic subjects. While being white is positively correlated with age (r=.26) and being black (as opposed to white or Hispanic) is negatively correlated with age (r=-.17), age entered the equation before the race dummies. Thus, even after controlling for age, whites were likely to have detoxified more times than blacks or Hispanics. Finally, the number of times a subject had been in outpatient alcoholism treatment and the number of drugs he had used within the past 12 months were weak predictors of the number of times he had detoxified prior to participating in the research. The results of the regression suggest that older, white males who have relatively high SMAST scores and have been in residential and/or outpatient alcoholism treatment are likely to have had a greater number of detoxifications than have the younger, minority group members of the sample. It is necessary to remember, however, that all of these variables together explain only 19% of the variance in number of prior detoxifications.

Table VI-7

Regression Summary
Number of Previous Detoxifications

Variable	Simple r	Partial r	% variance acct. for	F	(df)
Age at entry	.15	.15	2.1	12.88^	(1,591)
Race			3.5		
White dummy var.	.22	.19		21.58^	(1,590)
Black dummy var.	-.15	.007		< 1	(1,589)
SMAST score	.22	.21	4.0	26.08^	(1,588)
Resid. treatment	.32	.28	7.0	49.58^	(1,587)
No. drugs used	.07	.14	1.6	11.56^	(1,586)
Outpatient treat.	.18	.12	1.2	8.91*	(1,585)

*p<.01
^p<.001

Detoxification clients in other local facilities: A comparison. One of the reasons for conducting interviews with administrators and staff members working in New York City's other detoxification facilities was to obtain comparative information concerning their clientele. To this end, interview respondents were asked to estimate the percentage of their clients with characteristics that were most descriptive of the subjects in the present research, such as residential status, alcoholism history, and medical condition. In addition, those individuals who felt knowledgeable about New York's public inebriate population were

asked to provide observations and opinions regarding the changes they have seen in this population over the last 10 years, in such areas as demographics, medical treatment, alcoholism treatment and social service needs, and the care they receive for these needs.

Not all data obtained in these interviews were readily interpretable. Typically, respondents would decline to answer some questions regarding their clients because they were concerned that their estimates might be inaccurate, and they had no way of providing a precise response. Unfortunately, a few other respondents were too willing to offer answers to some questions, even though it was apparent that their responses were inconsistent with their colleagues', or were not well informed. For these reasons, it was important to assess the aggregated responses to each item in this interview to be assured of the validity of some responses. If there was any question as to an item's validity -- usually meaning that widely varying responses were obtained from very similar institutions -- that item was discarded.

When viewed across the 25 detoxification sites, data concerning program clients appeared to fall into the same three groupings used in the earlier description of facility differences. In general, sobering-up station (SUS) clients were most similar to the research subjects, followed by public hospital clients. Private hospital clients were least like those in the current study. The following discussion centers around these three programmatic distinctions, with variations within these groupings noted where salient.

The greatest differences between research subjects and those at most detoxification facilities emerged in the area of socioeconomic status. The clearest pattern of differences between research subjects, SUS clients, and clients of public and private hospital facilities concerned their residential status and whether they had medical insurance. On the average, the private hospitals estimated that 9.6% of their clients were homeless. Some administrators could only estimate the proportion of their clients who were either homeless or lived in SROs. The figure for private hospital clientele was 35.4%. The public hospitals who provided estimates of the proportions of clients who were homeless averaged 33%. Those public hospital respondents who could not distinguish homeless and SRO clients stated that, on the average, 60% of their clients were in this group. Respondents at two sobering up stations could not distinguish homeless from SRO clients, so only the figure for homeless or SRO was tabulated for the five SUSs; the mean for these programs was 83%. Variations within these groupings appeared related to the borough of New York City in which the facility was located, and to some extent, neighborhood within borough. For all three types of facilities, programs located in Queens and Staten Island had fewer homeless/SRO clients. Programs in mid-Manhattan, Staten Island, and the outer reaches of Brooklyn and Queens also tended to report large numbers of SRO residents, but few homeless. The sobering up stations presented a consistent pattern, except for the Staten Island facility, which reported fewer homeless and SRO clients.

There was surprisingly little difference among the hospital facilities in terms of the proportions of their clients who pay with public insurance. With the exception of a few private hospitals in mid-Manhattan and Queens, all hospitals reported that more than two-thirds of their clients paid with Medicaid or Medicare, although this figure for public hospitals approached 100%. A better way to distinguish these facilities' clients along this dimension was the proportion of clients who had to be processed for public insurance by each program. This figure represents the individuals who were eligible for Medicaid, but did not have a valid Medicaid card in their possession at admission. The mean percentage of clients who had to be processed for public insurance at the private hospitals was 9.5%, as compared to 50.2% at the public hospitals. No actual estimates were available from the sobering up stations because they never obtained this information at admission. However, SUS administrators (with the exception of the one in Staten Island) agreed that the great majority of their clients do not hold Medicaid cards or have the requisite identification.

While racial/ethnic data were not collected in the interviews, these programs clearly differ in terms of the numbers of minority alcoholics they serve. The SUSs and public hospitals serve more black and Hispanic clients than do the private hospitals, but the proportions of such clients in each program appear most related to the neighborhoods in which the facilities are located. In general, the racial/ethnic composition of the

public hospitals and SUSs in Brooklyn and the Bronx was most similar to that of the research sample. The programs whose composition was dissimilar included those in Manhattan (located in Harlem and comprised almost entirely of blacks) and in Queens and Staten Island where there was a greater proportion of white clients. There were also a few private hospitals, located in predominantly lower-class, minority neighborhoods in Brooklyn and the Bronx, where clientele had a racial/ethnic breakdown similar to that of the research sample.

Interview data on alcoholism history and treatment, and medical problems and care did not reveal any meaningful differences among these facilities. This is probably due more to the nature of this information, and the way it was addressed in the interview, than to an actual lack of difference among clients. Respondents were consistently reluctant to characterize their clients' drinking and treatment history in a general way, and when estimates were obtained (on, for example, percentage of first-detoxification clients, or percentage with previous detoxifications at this facility) no consistent patterns emerged. With regard to medical problems, almost all respondents insisted that half to three-quarters of their clients had chronic health problems.

In summary, the research sample appears to be representative of New York City's sobering up station population, and also shares similarities with clients served in public hospital facilities. The most straightforward evidence of these similarities is in the

clients' domiciliary status and medical insurance coverage. The racial/ethnic composition of the research sample resembles that observed in facilities (mostly SUSs and public hospitals) located in racially mixed, lower-class neighborhoods. It was not possible to draw any comparisons between the sample and other clients in such areas as drinking and treatment history, and medical needs and care. This is likely due to drawbacks in the interview process; a less likely possibility is that there are not great differences between the sample and other clients in these areas, and that SES-related factors most critically characterize the alcoholics in this research.

Apart from these data on current program clients, the interview with local administrators was directed at obtaining their impressions on various issues relating to New York City's public inebriate population. One area that was of particular interest concerned the historical context of these local data, given the widely held notion that this population has undergone a considerable evolution in recent years. In this regard, respondents were asked about the changes they had observed over the last 10 years in New York's public inebriates. Among the 25 (out of 29) respondents willing to offer their opinions, there was unanimous agreement with regard to changes in the age of the population, and its drug use. All respondents reported that the population was getting younger, with increasing numbers of individuals in the 20-40 age range. Two respondents indicated further that they felt the distribution was becoming bi-modal,

with an increase in 18-35 year-olds and the same large numbers of men at 50+. Respondents also reported "severe increases" in the numbers of public inebriates abusing various drugs in addition to alcohol; some of the administrators of programs dealing with this population put this figure at 40-50%, while others offered the conclusion that "there is no such thing as a straight alcoholic anymore."

While there were fewer respondents willing to offer opinions regarding other areas of change, those who did respond tended to agree on the direction of these changes. When asked about racial/ethnic changes, 11 interviewees felt there were increasing numbers of minorities, while two observed no differences over time in this area. Every one of the sobering up stations, with the exception of the Staten Island program, noted increases in minority clients. Larger black representation in the population was mentioned by almost all of the respondents, with about three-quarters of them (and especially those working in programs in the Bronx) also noting increases in Hispanic clients. Nine respondents, including all of the SUS administrators, said there were increasing numbers of homeless individuals in the public inebriate population. Two people said they saw no differences, and one person said homelessness seemed to fluctuate in the population over the past decade. A question was also asked regarding employment status. Eight respondents said they saw larger numbers of unemployed individuals, three saw no change and three observed less unemployment in the population. Five of the

six SUS administrators saw increasing unemployment, and most of them noted that many more of their clients had "never worked," and simply had no employment history.

Ten respondents indicated they felt that the public inebriate population had grown in size in the past 10 years, while two saw it fluctuating, and two others observed no change in this regard. Of the 13 individuals who considered themselves familiar with changes that have occurred in the Skid Row environment, 12 felt this environment had gotten more dangerous, citing increasing numbers of "vicious" and "crazy" people, including mental hospital releasees, drug addicts, and violent youth who prey on street alcoholics. While most respondents felt that general social services for this population were inadequate, only a few noted much change in this area in the last decade, with four thinking these services had been reduced, and two thinking they had gotten better.

In reviewing the few items that revealed patterned differences between the sobering up stations and the public and private hospitals, it is important to identify the limits of the local context in which these data were obtained. These interviews -- and in particular the public hospital respondents -- revealed numbers for homeless and SRO residents, and for individuals needing public insurance processing, that are likely greater than national norms. Unfortunately, this statement is only conjecture, since it was not possible to obtain such detailed client population data at a national level. More general information was

gleaned from an anaylsis of the National Drug and Alcoholism Treatment Utilization Survey (NDATUS, 1983), the results of which are discussed in Appendix B. This analysis focused on basic variables available in NDATUS, such as modality, facility location, and "principal population served" (defined by the survey as rural, suburban, inner city and other urban). In these broad terms, programs such as BI, SS and LM were common in urban and inner-city areas. Facilities representing the freestanding medical model of MB were less numerous nationally, and most commonly served rural populations.

CHAPTER VII:
IMPLEMENTATION RESULTS

As originally intended, the central focus of this research was an assessment of differential program experiences and outcomes for individuals detoxifying in three program modalities. As would be expected, however, important findings were also obtained in the process of conducting the research. This section presents results related to the differing admissions procedures at the study sites which emerged during the implementation of the study design (and were discussed in Chapter V). Included in this section are a number of substantive findings that concern barriers to admission to the hospital-based detoxification facility. Important contrasts between the screening procedures of the two non-medical programs were also observed during the assignment and admissions process, and are described in this section.

Admissions procedures: Barriers to admission to the hospital facility. Not all persons in the research sample were detoxified at the assigned facility. As noted previously, 57 of the 671 consenters were randomly assigned to a study site that had no bed available at the time of assignment. Of the remaining 614 men, 213 (34.7%) were denied admission to the assigned facility. The hospital-based detoxification facility, Beth Israel, accounted for the great majority (167, or 78.4%) of these "untreated" clients. The apparent inaccessibility of this facility to the public inebriate population is a major finding of this research. The 46 other subjects denied admission to their assigned facility

included 16 assigned to Social Setting, 28 to Lower Manhattan, and 2 to the Manhattan Bowery program.

Early in the data collection period it became evident that most subjects sent to Beth Israel were being rejected at admission. As detailed in Chapter IV, all incoming clients to this facility were subjected to an extensive financial and medical screening, to determine whether they would be admitted. Since virtually none of the BI-assigned men had private insurance, potential BI admissions scenarios for these subjects included: possessing an active Medicaid card and meeting alcoholism withdrawal criteria (diagnosis of alcoholism, recent excessive drinking, evidence of withdrawal syndrome); sufficient documentation of Medicaid eligibility and the alcoholism/withdrawal criteria; active Medicaid, acute intoxication, self-report information indicating withdrawal would occur and Admitting staff's judgment that the client evidences "rehabilitation potential"; no Medicaid documentation, but a "clear medical need" (such as advanced symptoms of withdrawal syndrome, or a life-threatening medical condition).

After a few weeks of assigning subjects to BI, it became clear that many of these men, if transported there from the entry facility, would have to be shuttled back. In the process, they would have waited for long periods, been subjected to an unfamiliar screening, and had their expectations for admission denied. As was described above, this resulted in pre-screening clients assigned to Beth Israel.

Of the 217 clients who were randomly assigned to BI (and for whom a bed was available), 167, or 77% were not admitted to the facility. All but 18 of these untreated BI subjects did not have active Medicaid, or the documentation necessary to be regarded by BI as Medicaid-eligible. These non-Medicaid individuals did not present clear evidence of a medical emergency, which would have enabled their admission. Thirteen of the 18 clients who had Medicaid were judged as not meeting BI's criteria for withdrawal. It is likely that most of these clients were intoxicated at entry, and thus not yet exhibiting withdrawal. Four of the untreated subjects were diagnosed as (and/or admitted being) actively addicted to heroin, and were inappropriate for alcohol detoxification.

Because combinations of admissions criteria were applied, and admissions personnel sometimes provided different explanations for admission on a single case, it was not possible to identify readily a particular reason for the admission of the 50 men accepted by Beth Israel. It was determined, however, that 38 (76.0%) of these men could pay through some form of public insurance, with 20 having active Medicaid, 12 having sufficient ID or a prior BI visit that made it possible to easily update their Medicaid, 5 having Medicare, and 1 having VA insurance. Even if the updated Medicaid clients are not considered, admitted BI clients were more than twice as likely to be covered by Medicaid or Medicare (50% of all those admitted to BI) than the rest of the research sample (20.3%).

For descriptive and methodological purposes, a series of further analyses addressed differences between treated and untreated Beth Israel subjects. With the exception of the difference in the area of insurance and a related finding in welfare status, no differences were found between these two groups with regard to demographic and background variables. Treated BI clients were more likely to be receiving home relief or SSI than untreated subjects (35.3% vs. 14.6%, respectively; χ^2=10.58, df=2, p<.01, Cramer's V=.22). No differences were found in their domiciliary status, race/ethnicity, marital status, educational level, or age.

Analyses of these clients' drinking and treatment histories suggested that treated subjects had experienced more severe withdrawal symptoms in their past, and had had more experience with post-detoxification alcoholism treatment. Over three-quarters of the men admitted to BI had experienced hallucinations, and 45.1% had had seizures. These proportions are significantly greater than the corresponding figures for men denied admission to BI, which were 45.3% for hallucinations (χ^2=15.06, df=1, p<.001, phi=.27), and 27.3% for seizures (χ^2=5.65, df=1, p<.05, phi=.16). Other drinking history variables revealed no significant differences; these included years of heavy drinking, number of months sober or since sobriety ended, and scores on the SMAST.

While the two groups did not differ significantly in terms of detoxification history, on the average, men admitted to BI had twice as many previous BI detoxifications ($\bar{X}$=1.25, sd=2.0) than

those denied admission ($\bar{X}$=.67, sd=2.1). This difference, while non-significant, reflects the role of Medicaid in obtaining admission to BI, since a previous BI visit enhanced a subject's chance for having eligibility documentation. Outside of detoxification, treated BI clients also appeared to have had more experience with institutional alcoholism treatment. Half the subjects admitted to BI had at some time attended a residential alcoholism treatment program, as compared to 32.3% of the untreated BI assignments (χ^2=4.68, df=1, p<.05, phi=.15). Similarly, 56% of the treated BI subjects and 32.1% of the untreated men had been in an outpatient program (χ^2=9.29, df=1, p<.01, phi=.21). The two groups did not differ in terms of prior experience with disulfiram or AA attendance.

Data on the medical history of these clients were considered inappropriate for comparative analysis. This is because such information was obtained from each study site's case files, so differences between treated and untreated BI clients (who usually detoxed at the entry site) on these data were primarily attributable to record-keeping differences among the programs.[18] Observations of the admissions procedure at BI suggested that medical history was not a significant factor in determining an admission; it is likely, then, that because of the random

[18]Analyses of the medical history data at the sites where untreated subjects detoxified reinforced this impression, as these clients' histories resembled those of all other clients at the detoxification site. While there were differences between treated and untreated BI clients on 5 of the 18 medical history diagnoses, this appeared to be due to BI's greater success in obtaining and recording this information, and not to client differences.

assignment of subjects, admitted BI clients did not differ from untreated clients with regard to medical history.

In addition to the importance of public insurance in obtaining admission to BI, there was consistent evidence to suggest that admission was also contingent on the severity of the client's withdrawal. Admitted clients were more likely to exhibit moderate or severe tremors at entry (60.8%) than those not admitted (16.3%; χ^2=41.86, df=2, p<.001, Cramer's V=.44). The same finding occurred for sweating at entry, with more treated subjects exhibiting moderate or severe sweating (41.2%) than untreated subjects (15.7%; χ^2=22.90, df=2, p<.001, Cramer's V=.33). Vital signs at entry revealed similar differences. Men who were admitted had higher mean pulse ($\bar{X}$=105.0, sd=16.9) than BI assignments who were not admitted ($\bar{X}$=89.0, sd=13.5; t=7.34, df=209, p<.001), and the same pattern held true for blood pressure. Subjects treated at BI had significantly higher systolic blood pressure ($\bar{X}$=146.0, sd=18.2) than did untreated subjects ($\bar{X}$=130.2, sd=18.0; t=5.35, df=192, p<.001) and also had higher diastolic blood pressure readings ($\bar{X}$=98.8, sd=12.1) than did untreated subjects ($\bar{X}$=81.3, sd=12.5; t=8.70, df=191, p<.001).

Taken together, these results are consistent with the hospital-based facility's stated policy of admission, which emphasizes the necessity of insurance or extensive eligibility documentation, as well as evidence of alcoholism and withdrawal syndrome. The most apparent differences between men admitted to BI and those not admitted concerned their insurance status and the

severity of their withdrawal. Other differences were highly related to these factors. Having the wherewithal to carry Medicaid or documentation for its updating would probably also mean having the wherewithal to obtain welfare and negotiate and attend post-detoxification alcoholism care. Experiencing severe withdrawal at this detoxification is likely related to severe withdrawals in the past.

Since 75% of the men in the research sample did not have any form of insurance, and as a group, they did not evidence the severity of withdrawal observed in clients admitted to BI, this detoxification facility does not appear to be a treatment option for the great majority of these men. The apparent inaccessibility of hospital-based detoxification is clearly an important finding, with significant implications for the delivery of alcoholism (and perhaps medical) services to the population of public inebriates.

Denial of admission to large numbers of subjects in one of the study sites, while an interesting finding, also, posed a methodological problem for the research. The principles of random assignment are clearly violated when a screening process omits substantial numbers of subjects from a certain treatment. The comparative analyses described above reinforce this concern, as men admitted to BI were found to be different on several dimensions from those not admitted. For this reason, any subsequent analyses of BI treatment outcome must be interpreted in light of that program's admission procedures, and the unique "pre-treatment" characteristics specific to treated BI clients. This

methodological caveat is observed throughout the result sections which follow.

Screening procedures at the two non-medical facilities. Despite very similar stated policies regarding admissions screening, the research revealed considerable differences between the Social Setting and Lower Manhattan facilities in their application of these procedures. The Social Setting program denied admission to 16 (16.7%) of the 96 men assigned there; the proportion of assignments to Lower Manhattan who were denied admission was more than twice this figure, totalling 38.3% (28 of 73). Table VII-1 presents the various reasons given by these programs for denying admission to subjects, and the number of men to which each reason applied.

It is apparent from these figures that the greater number of untreated subjects at Lower Manahattan is due to the frequency with which LM judged clients as needing medical detoxification or medical care. Site researchers who observed the LM admissions process reinforced this conclusion, noting that LM staff would conduct a thorough and deliberate screening with all clients who were presented for admission. LM clients were initially asked questions about their age, previous alcohol-related seizures, "d.t.'s," and heart ailments. Answers to these questions sometimes led to referrals to medical detoxification (always Manhattan Bowery, which was four blocks away) or, in rare cases, to an outpatient medical clinic.[19] Even if a client had met these

[19]In this regard, it must be noted that the numbers in Table VII-1 do not include subjects assigned to LM, sent by LM to a nearby outpatient clinic for "medical clearance," and then returned to LM to complete their detoxification. These

initial screening criteria, LM staff would inquire further about the client's prior withdrawal experiences, medical history, and recent drinking and detoxification history.

Table VII-1

Reasons for Denial of Admission by Assigned Site[a]
(in percentages)

Reason	Assignment Site		
	SS (N=96)	LM (N=73)	Total (N=169)
On medication	4.2	1.4	3.0
"Troublemaker"	1.0	2.7	1.8
Drug addict	4.2	4.1	4.1
Needs med. detox.[b]	2.1	11.0	5.9
Needs med. care	1.0	11.0	5.3
Other	4.2	8.2	5.9

[a]The percentages in this table are of the total number of assigned subjects to the facility (not the proportion of untreated subjects at each facility).
[b]Refers to clients judged as needing medical detoxification because of the severity of their withdrawal; the following row refers to clients judged as needing medical care unrelated to the condition of their withdrawal.

In contrast to LM, there was a presumption at Social Setting that the client would be able to withdraw from alcohol without medication or medical attention. Of the 96 clients assigned to SS, only 3 were judged as inappropriate for admission due to a

individuals, who also occurred in proportionally large numbers at LM, were considered "treated subjects," and are described in Chapter VI.

need for medical detoxification or medical care. Admission to SS involved less elaborate procedures; there was not a great deal of discussion and judgment among staff members as to a client's ability to handle non-medical detoxification. The screening appeared to center more on whether or not a client's admission would violate firm rules regarding use of other drugs or medication, and 8 of the 16 untreated SS clients were denied admission for these reasons.

As described in the Chapter III, Lower Manhattan was brought into the research after the closing of Social Setting, to be used as a comparable non-medical detoxification site. While statistical analyses were planned to address the question of comparability, the need for such analyses became more evident with the observation that different screening processes were used in these programs. Similar to the analyses of BI treated and untreated clients, a series of analyses were directed at uncovering pre-treatment differences between SS and LM treated subjects, and between the untreated subjects at these sites.

The different admissions procedures employed in these facilities were evidenced by client differences in predictable areas. Treated SS clients were significantly older, averaging 42.1 years old (sd=9.8) as compared to 37.5 years old (sd=7.6) for the clients treated at LM ($t=2.74$, $df=123$, $p<.01$). SS also admitted proportionally more than twice as many clients with a history of seizures (26.6% of all their treated subjects) than LM, which admitted only 5 (11.4%) such clients ($\chi^2=3.93$, $df=1$, $p<.05$,

phi=.18). Likely related to these findings are differences in history of detoxification; of those treated at LM, 27% had never detoxified before, as compared to 8% at SS (χ^2=8.76, df=1, p<.01, phi=.27). Similarly, SS clients had significantly more prior detoxifications, averaging 14.7 (sd=17.9) as compared to 7.7 (sd=10.6) at LM (t=2.37, df=121, p<.05). Analyses of untreated subjects also revealed a considerable difference between the mean age of men admitted to LM ($\bar{X}$=37.5, sd=7.6) and those denied admission to this facility ($\bar{X}$=46.5, sd=11.7; t=3.98, df=71, p<.001). This finding again reflects the tendency of LM to regard older men as needing medical detoxification -- a tendency which is further demonstrated in the age range of treated (25 to 53 years old) as compared to untreated (29 to 75) LM clients.

Given the considerable observed differences between the screening procedures at LM and SS, it is somewhat surprising that there were not more client differences revealed in these analyses. LM and SS clients were found to be similar in terms of vital signs at intake, SMAST scores, history of hallucinations and tremors during withdrawal, post-detoxification alcoholism treatment, drug treatment history and on all 18 medical history items.[20] There were also no differences among the clients of these programs on the demographic and background variables. These results would appear to indicate that the LM screening was effectively a "rule-

[20]The caution noted earlier regarding cross-program comparisons of the medical history data (obtained from program files) appears to have little application to the two non-medical programs, which had similar procedures for obtaining and recording this information.

oriented" screening, just like SS's, with simply a different and more exclusive set of rules. Applied in the same straightforward manner as SS's rules on medication and drug abuse, LM's rules were different in reflecting a greater concern about some clients needing medical care or medical detoxification, and a presumption that age and history of seizures are the best indicants of this. The more "careful and judgmental" behavior observed in the LM screenings did not appear to result in a sample any different from the SS sample, except with regard to age, history of seizures, and a correlate, previous detoxification history. Since these variables may be relevant to various outcomes, however, it was decided to maintain SS and LM clients as separate treatment categories in the subsequent analyses of these outcomes.[21]

Effects of admissions criteria on cross-site comparability. As was discussed earlier in this chapter and in Chapter V, above, differing admissions criteria at the four sites had important impacts on the research. One such effect was different sample sizes at the different sites. This was further exacerbated by the closing of SS and the substitution of LM. Had the two non-medical facilities been more similar, the data from them could have been combined as representative of non-medical detoxification. However, it is clear from the comparisons presented above that the two facilities differ on a number of important dimensions. As a result of differing admissions criteria, the numbers of treated

[21] SS and LM samples were analyzed as separate groups for other reasons as well, not the least of which was that they received different treatments (except for the common lack of medication) at these facilities.

subjects at the four sites vary from 224 at MB to 45 at LM, with 82 treated at SS and 50 at BI.

The major statistical problem associated with such sample attrition is loss of randomness leading to systematic bias. That is, the screening procedures employed by BI clearly led to subjects treated at BI being in more severe withdrawal at intake, having experienced more severe withdrawal symptoms in the past, and having had more experience with alcoholism treatment than subjects treated at the other three facilities. The screening differences at the two non-medical facilities led to some significant differences, though not in such serious proportions as the differences between subjects treated at BI and those treated at the other facilities. Subjects treated at LM tended to be younger, were less likely to have a history of seizures, and had fewer prior detoxifications than subjects treated at SS.

As was indicated above, the differences between LM and SS resulted in maintaining the two sites separately rather than combining them into one "non-medical model." The problem of loss of randomness remained, however. The subsequent analysis strategy was tailored to cope with this problem. Most analyses of treatment effects were bivariate, either two-way crosstabulations (with chi square) or one-way analyses of variance. These techniques avoided the problems associated with non-orthogonality of "independent" variables. In addition, multivariate analyses were computed on withdrawal severity, completion of detoxification, completion of subsequent alcoholism treatment, and

readmissions for detoxification. This approach allows for statistical control of pretreatment differences. In each of these analyses, hierarchical multiple regression was used, and in those instances in which site was used as a predictor, it was entered last. Thus, any site effects would be obtained after controlling for covariates. For example, in an analysis of withdrawal severity, site is entered after pulse and blood pressure at intake. Therefore, if there were a significant site effect, it would not be attributable to the differences in condition at intake of BI subjects. In effect, this approach is equivalent to treating the design as non-experimental.

Most important, any significant treatment effects were interpreted in light of the known differences among subjects treated at the various facilities. Thus, for example, those analyses which show that subjects treated at BI experienced greater trauma during detoxification are interpreted as the result of pre-treatment differences.

CHAPTER VIII
THE SAFETY OF NON-MEDICAL AND MEDICAL DETOXIFICATION

Evidence of the extent to which each of the study sites safely provided detoxification services is presented in this chapter. Comparisons among the programs centered on two different indicators of program safety. The first and most common measure of the safety of detoxification is the severity of withdrawal experienced by program clients, with special attention to the occurrence of such dangerous complications as seizures and delirium tremens. A second set of analyses assessed these programs' relative ability to diagnose and respond to their clients' other medical problems. The importance of this service was evident in light of the apparent lack of medical care available to homeless alcoholics; over the course of the research, it became clear that the detoxification facility was the sole source of health care for many members of this population. Before the presentation of these results, descriptive findings pertaining to the subjects' entry into detoxification are discussed. These findings "set the scene," offering a picture of the subjects' withdrawal condition prior to being assigned to a study site, and their stated views of why and how they came to detoxify on this occasion.

Entry to detoxification: Withdrawal condition and reasons for entry. Site researchers at the entry facilities judged the extent to which subjects[22] appeared to be intoxicated and

[22]Collected at entry, these data were obtained before assignment on all consenting subjects (N=672).

suffering from withdrawal. Based on observation and the subject's self-report, these judgments were recorded on a four-point scale (1=none, 2=slight, 3=moderate, 4=severe) with regard to intoxication, sweating and tremors, and hallucinations were coded as present or absent.

Just over half of the sample were judged as slightly intoxicated (53.4%); about one-third were moderately intoxicated (37.7%), and most of the remaining men (8.3%) showed no signs of being intoxicated. Only 2.4% of the men were considered severely intoxicated. The small size of this group would be expected, since individuals who were excessively intoxicated tended to be "incoherent" at entry, and thus ineligible for the research.

The data on subjects' tremulousness and sweating at entry were quite comparable. Slight tremors and slight sweating was observed in 53.4% and 53.8% of the subjects, respectively. A slightly larger number of men evidenced no perspiration at entry (24.4%) compared to no tremors (19.8%), and this was reversed for moderate sweating (20.7%) and moderate tremulousness (24.4%). One percent had severe sweating and 2.3% had severe tremors. Only eight subjects (1.2%) were hallucinating at entry.

Just before completing their detoxification, treated subjects were asked their reasons for coming in for detoxification on this occasion. Each man could give as many reasons as he desired, and Table VIII-1 shows the frequencies of the six most common responses. As might be expected of a skid row population, the most common response, given by more than

three-quarters of the men, was that they were simply too sick to drink anymore. A desire to obtain help with their alcoholism was reported by over half of the men. In addition to this response -- which must be regarded as the socially desirable one -- some clients admitted coming to the facility for reasons not typically associated with the primary goals of a detoxification service. Almost one-quarter of them said they came due to their need for medical care and 10.8% said they "needed a warm bed and a place to stay."

Table VIII-1

Reasons for Presenting for Detoxification

Reason	Frequency (N=353)[a]	Percent
Too sick to drink anymore	267	75.6
Wanted help with alcoholism	198	56.2
Needed medical care	84	23.8
Shelter	38	10.8
No money to get more alcohol	35	9.9
Talked into it by rescue team	18	5.1

[a]Data related to why and how subjects came in for detoxification were obtained only on individuals who were actually treated at the assigned facility and were available for the exit interview; N is slightly smaller on certain items due to missing data.

When these responses were assessed separately for the three

entry sites, there was some indication that clients had different reasons for coming to each facility. As would be expected, a greater proportion of Manhattan Bowery entrants than of those at SS or LM gave the responses "too sick to drink" and "needed medical care." Surprisingly, though, these responses were given by almost the same proportions of Social Setting entrants, while almost no men entering at Lower Manhattan gave these reasons. SS entrants were also more likely than other entrants to say they came because they needed help with their alcoholism, and more of the SS entrants said they came for shelter reasons, although this still amounted to less than one-fifth of all those entering at this facility.[23]

At the same time that the treated subjects were asked why they came for detoxification on this occasion, they were asked how they usually decide where to go for detoxification. Their responses tended to reflect the same motivating factors associated with the respondent rejects that were noted earlier. That is, the most common basis for their decision was a familiarity with the program (56.9%), closely followed by the decision to go to the program in their nearby neighborhood, "where I hang out, where my buddies come" (46.1%). Just over a third of the men said they simply prefer medical detoxification,

[23]These relationships between entry site and "why" response were assessed using chi square tests. As noted, responses related to entry site included: too sick to drink (χ^2=12.18, df=2, p<.01, Cramer's V=.18); needed medical care (χ^2=8.11. df=2, p<.05, Cramer's V=.15); needed help with alcoholism (χ^2=6.63, df=2, p<.05, Cramer's V=.14); and shelter (χ^2=6.24, df=2, p<.05, Cramer's V=.13).

and 22.4% said they choose a particular facility on the basis of how sick they are at the time. A similar number (21.8%) said they don't make the decision on their own, and depend on someone else to take them to the facility.

The familiarity and proximity responses were not related to entry site, and predictably, more MB entrants than those entering at SS or LM said their decisions were based on a desire for medical detoxification. A preference for non-medical detoxification was similarly related to entry site, as about a quarter of the SS entrants said this entered into their decision about where to go for detoxification. Outside of these 17 SS entrants, very few men (3.7%) reported this preference. The only other decision-making rationale associated with entry site was the "depends on how sick I am" response. This was reported by 38.3% of the SS entrants, 20% of the MB entrants and none of the LM entrants.[24]

The course of withdrawal during the detoxification period: Use of withdrawal medication. As was described in Chapter VII, programmatic differences made it impossible to collapse MB and BI into an aggregate medical modality, and SS and LM into a non-medical modality. Distinctions between MB and BI were particularly evident in these programs' approach to the treatment of withdrawal, and the use of withdrawal medication. With rare

[24]The "how I choose a facility" responses which were found to have statistically significant relationships with entry site were as follows: prefers medical detox (χ^2=23.17, df=2, p<.001, Cramer's V=.26); prefers non-medical detox (χ^2=25.64, df=2, p<.001, Cramer's V=.27); and depends on how sick I am (χ^2=19.29, df=2, p<.001, Cramer's V=.24).

exceptions, both facilities used phenobarbital as the withdrawal medication of choice, but they differed radically in terms of the proportions of clients receiving this medication. At MB phenobarbital was prescribed for virtually all clients for all five days. In contrast, the proportion of BI clients receiving this drug declined steadily for the first three days, and then leveled off at about 55%. The percentage of subjects at BI and MB for whom phenobarbital was prescribed for each of the first five days of detoxification, and the associated chi-square tests are presented in Table VIII-2.

There were also differences between the two facilities on the dosage of phenobarbital administered, but these differences were inconsistent with those observed on the proportions of subjects receiving the drug. Data on mean dosage administered each day, along with results of t-tests comparing program means, are also presented in Table VIII-2. On day one, the mean dosages for the two facilities were equal, but the second day revealed considerably larger dosages at the Manhattan Bowery program. This difference is partially attributable to the different admissions criteria at the two facilities; clients entering BI were already in withdrawal, while the great majority of those entering MB were intoxicated. Thus, the MB clients would be experiencing their most severe withdrawal symptoms 12 to 24 hours later than those at BI. The relatively large dosage on day two at MB also appears to reflect greater use of "as needed" medication during its clients' most severe withdrawal period. A

different pattern emerges in days three through five, however, when the average dosage of phenobarbital for those subjects receiving medication is significantly greater at BI than at MB. It may be that MB must taper its dosage more quickly because its clients leave after five days, while those at BI stay for six days.

TABLE VIII-2

Withdrawal Medication by Day at MB and BI[a]

Medication	Site MB	Site BI	χ^2	(phi)	t	(df)
Day One						
% prescribed	99	82	31.04	(.34)		
$\bar{X}$ dosage (mgs)	217.12	218.78			< 1	(261)
Day Two						
% prescribed	99	62	83.37	(.56)		
$\bar{X}$ dosage	330.37	228.39			4.77	(247)
Day Three						
% prescribed	100	54	104.30	(.64)		
$\bar{X}$ dosage	121.83	173.08			7.77	(232)
Day Four						
% prescribed	98	57	68.38	(.54)		
$\bar{X}$ dosage	59.36	115.20			19.77	(211)
Day Five						
% prescribed	93	56	37.17	(.43)		
$\bar{X}$ dosage	32.24	58.75			6.60	(169)

[a]Except for the t-test on day one dosage, $p<.001$ for all tests (both χ^2 and t) presented in the table. For all χ^2 tests df=1.

In addition to phenobarbital, the use of other sedatives for withdrawal was also recorded at each site. The difference

between the two medical facilities' use of sedatives appeared consistent with differences observed in their use of withdrawal medication. At MB, between 96% and 98% of the clients were prescribed an antihistamine (diphenhydramine hydrochloride) to help them sleep on each of the five nights. At BI, a client may be given sleeping medication (promethazine hydrochloride), but only after he has been in the program for 72 hours. The data at this site indicated a gradual increase in the use of sleeping medication over the five-day period, with it being administered to 6% of the men on the first evening and 43% of them on the last evening. As would be expected from these figures, the differences in proportions of subjects administered these sedatives at the two medical sites were highly significant for each of the five days of the detoxification period.[25]

Referrals to hospitals for withdrawal problems. One of the more important safety indicators for non-medical facilities is the number of clients that require referral to a medical facility for complications arising during detoxification. Earlier uncontrolled evaluations of these programs have tended to report uniformly low proportions of referrals. The Social Setting results were consistent with these studies, as the program referred four (4.9%) of their research subjects to a local hospital for acute withdrawal problems that SS staff judged required medical attention. Three of these men returned within

[25]Results of the chi square tests for the five days were as follows: day one, χ^2=223.87, phi=.90; day two, χ^2=193.83, phi=.8; day three, χ^2=193.23, phi=.85; day four, χ^2=106.09, phi=.67; day five, χ^2=71.30, phi=.59. For each test, df=1 and p<.0001.

48 hours to SS to complete their detoxification, after being treated and monitored at the hospital facility.

Lower Manhattan referred five men (11.1%) to a local outpatient medical program or hospital due to concerns about the severity of these mens' withdrawal syndrome. Three of these men returned to LM to complete the detoxification, one remained at the hospital, and one left the medical program before being treated and did not return to LM. Though still amounting to a relatively small proportion of their treated subjects, the fact that LM's referral rate for these cases was over twice that of SS deserves mention. While the numbers at both facilities were too small to serve as a firm basis for conclusions, together with the observations on admissions procedures made earlier, these results underscore the differences in these facilities' approach to non-medical programming. LM appeared more sensitive to the physical condition of its clients, and did not hesitate to screen them out or refer them to a medical facility. SS's referral rate seems to imply a greater confidence in its ability to handle almost all clients in a non-medical environment, and reflects its commitment to test the hypothesis that nearly all clients can be treated without reliance on hospitals. The results support this hypothesis; 95% of their randomly assigned subjects safely detoxified with no medical attention, and those who did require medical care were able to complete their stay at SS.

Vital signs and withdrawal symptoms during detoxification. A series of analyses were conducted to compare subjects at the

four study sites on their daily vital signs and withdrawal symptoms. As noted previously, Vera site researchers recorded the highest daily temperature, pulse, and blood pressure (except at SS, where blood pressure was not measured) that had been entered by program staff into the client's active file. Based on notes in the files and their own observations of subjects, the site researchers also assessed the severity of each subject's tremors and sweating on a four-point scale (1=none to 4=very severe) for each of the first five days in the program. Attempts to aggregate some of these measures are described below.

Preliminary analyses indicated that with each day in the program more data were missing on these five measures, reflecting a tendency on the part of the program staff to not record vital signs and symptoms that appeared normal and stable in the latter days of the detoxification period. (To a much lesser extent these missing data also reflect the number of clients who left before completing the detoxification.) For this reason, analyses were limited to the clients' signs and symptoms during the first three days in the program. Table VIII-3 presents the daily mean temperature, pulse, and blood pressure for subjects in each of the four study sites.

Table VIII-3

Vital Signs by Treatment Facility

Vital sign and day	Site MB	BI	SS	LM	F	(df)
Temperature						
Day one	99.7	98.9	98.4	98.6	71.30	(3,393)
Day two	99.4	98.8	98.6	98.4	27.24	(3,374)
Day three	99.1	98.6	98.5	98.5	19.51	(3,326)
Pulse						
Day one	93.5	105.8	91.5	93.0	15.24	(3,394)
Day two	87.4	93.2	89.0	86.7	3.45	(3,376)
Day three	84.1	90.3	87.2	85.9	4.27	(3,322)
Systolic/ diastolic b.p.						
Day one	133/	149/	-	131/	20.51	(2,315)
	84	99		85	38.43	(2,315)
Day two	126/	140/	-	124/	14.72	(2,304)
	83	91		81	11.66	(2,304)
Day three	119/	134/	-	119/	16.72	(2,256)
	78	85		80	6.30	(2,256)

Note: With the exception of pulse on day two ($p<.05$) and day three ($p<.01$), and diastolic blood pressure on day three ($p<.01$), for all F-test results, $p<.0001$.

The temperature results exhibit little variability across days or across sites. This is particularly true at BI, SS, and LM, where average temperatures appear normal on the first day, and show little change over the three-day period. The only pattern evident in these data concerns MB, where the mean

temperatures are higher than the other sites, and drop consistently toward normal over time. Statistical analyses (Tukey's HSD) indicated that this difference between MB and the other three programs was significant for each of the three days; however, the lack of variation in these temperature data suggests the need to be cautious in their interpretation.

The pulse and blood pressure data show greater variability and evidence of a consistent and predictable pattern across sites and days. As would be expected from this facility's screening procedure, BI subjects have higher pulse and blood pressure readings from days one through three than do those in the other three facilities, with especially marked differences on the first day in the program. In addition to the analysis of variance results shown in Table VIII-3, multiple comparison tests using Tukey's HSD confirmed that BI patients had significantly higher pulse rates than patients at the other facilities on day one, and were higher than MB patients on days two and three. With regard to blood pressure, tests indicated that BI patients had higher readings than did those at the other sites on all three days. The most important finding revealed in these data is the absence of any severity differences in the other three programs. At least in terms of these two measures, there is no evidence that medication makes withdrawal less severe in this study sample.

Initial analyses of the tremors and sweating data indicated that it was very rare for a subject to be coded as "severe" at any time on either of these symptoms, so the severe and

"moderate" codes were collapsed and together regarded as indicating abnormal tremors or sweating. Unfortunately, preliminary analyses indicated that the interpretation of these withdrawal symptom data is problematic. The medical programs appeared comparable, but it is impossible to validly interpret the divergent means at SS and LM. Compared to LM, SS subjects had consistently higher means, but it was unclear whether this was due to objective differences in the withdrawal severity experienced by clients at these facilities or simply reflected different perceptions of program staff and/or site researchers. Given that the patterns evident in these results did not coincide with those observed in the more objective vital signs results, no further analyses were conducted on these data.

Data concerning alcohol-related seizures and hallucinations were also collected. Fifteen MB clients (6.6%) experienced hallucinations on their first day in the program, but for the rest of the days at MB, and for all days at the other sites, the frequency of hallucinations was so small that cross-site comparisons are inappropriate. No more than three subjects experienced hallucinations on any one day at any site (representing less than four percent of any sample), and there was no evidence of a greater occurrence of hallucinations at any particular site.

While alcohol-related seizures occurred in similarly small proportions of subjects, the effect of the use of withdrawal medication at MB and BI was apparent when the four sites were

compared in this regard. No one at BI, and only two men (.9%) at MB experienced seizures; the comparable figures at SS and LM were four (4.9%) and five (11.1%), respectively. Treatment personnel at all four facilities regarded seizures as dangerous and, therefore, important events. In this regard, the effect of medication was evident. Nevertheless, SS and LM successfully handled the nine cases of seizures by referring them to medical facilities, and it is notable that six of the nine returned to the non-medical facilities without further incident.

Predicting the severity of withdrawal. Having analyzed each of the withdrawal symptoms individually, attempts were made to combine these symptoms into a single indicator of severity of withdrawal. As was indicated above, problems with the data on tremors and sweating required that these variables be excluded from an index of withdrawal severity. Furthermore, because blood pressure readings were not taken at SS, it was necessary to conduct two sets of regression analyses, one including blood pressure data but excluding SS, and the other excluding SS as a predictor and including blood pressure data. For the former analysis the composite withdrawal variable was defined as the sum of the number of days on which the subject was recorded as having experienced hallucinations; the number of days his pulse was abnormal (greater than 100); the number of days his temperature was abnormal (over 100 degrees); the number of days his blood pressure was abnormal (higher than 150/90); and whether he had seizures during his stay in the detoxification program. The

result was a variable that ranged from zero to 15, with a mean of 1.35 and a standard deviation of 1.69.

An initial regression analysis was run on this withdrawal severity variable, including 12 variables which might logically predict withdrawal severity. These predictors were age at entry; number of medical problems appearing in the client's history; number of previous detoxifications; score on the SMAST; years of heavy drinking; number of months since the last period of sobriety ended; days since the last detoxification; homelessness; and temperature, pulse, and blood pressure (systolic and diastolic) at intake. The analysis yielded a squared multiple correlation (R^2) of .33 ($F(12,204)=8.51$, $p<.001$); however, it was clear from inspection that many of the variables accounted for negligible amounts of variance in the severity of withdrawal.[26] The analysis was re-run, eliminating any predictor that accounted for less than one percent of the variance.

The final hierarchical regression analysis included the eight variables that appear in Table VIII-4 below, and yielded an R^2 of .23 ($F(8,303)=11.54$, $p<.001$). The dummy variables for site, excluding SS, were included to determine whether site was a predictor of withdrawal severity. The results indicated that the best predictor of severity of withdrawal is the client's blood pressure at intake, and knowing the systolic pressure alone is

[26]Because of the large sample size for this analysis (N=217), the partial correlations for some of the dropped predictors with the dependent variable were statistically significant. Therefore, the criterion used to determine which variables were retained and which were dropped was one of "meaningfulness"; any variable that accounted for less than one percent of the variance was dropped.

sufficient. Other predictors of withdrawal severity include the client's prior medical history and his pulse at intake. Age is a weak predictor, accounting for only about 1.8% of the variance.

Table VIII-4

Regression Summary
(Severity of Withdrawal)

Variable	Simple r	Partial r	% of variance acct for	F	(df)
Age at entry	.13	.13	1.8	5.56*	(1,310)
No. of hist. diag.	.27	.24	5.7	18.86^	(1,309)
No. of prev. detox.	.10	.07	<1	1.31	(1,308)
Blood pressure					
Systolic	.39	.34	10.8	17.79^	(1,306)
Diastolic	.34	.04	<1	40.71^	(1,307)
Pulse at intake	.33	.23	4.5	<1	(1,305)
Site			<1		
MB dummy var.	-.11	.008		<1	(1,303)
BI dummy var.	.23	-.04		<1	(1,304)

*p<.05
^p<.001

Site did not predict withdrawal severity, indicating that after controlling for age, medical history, and condition at intake, subjects at LM did not suffer any more severe symptoms than those at the two medical facilities.

Because SS did not take clients' blood pressure, an additional regression analysis on the withdrawal severity variable was run. This analysis used the hierarchical model depicted in Table VIII-4, but included SS and deleted blood pressure as a

predictor. The results of this analysis were very similar to those described above. Overall, 20% of the variance in withdrawal severity was accounted for by the predictors ($F(7,382)=13.75$, $p<.001$), and the same variables were found to be significant contributors as in the previous analysis. With blood pressure removed from the analysis, pulse became the biggest contributor (accounting for 8.1% of the criterion variance), followed by number of historical medical diagnoses (7.2%). Again, site was unimportant, suggesting that non-medical treatment had no differential effect on severity of withdrawal.

These analyses indicate that those subjects whose blood pressure and pulse at intake were relatively high, and who had more extensive medical histories were likely to experience more difficult withdrawal symptoms than were healthier subjects. Age was a weak predictor of withdrawal severity, and neither number of previous detoxifications nor site accounted for differences in withdrawal severity. Furthermore, even knowing age, medical history, and condition at intake, only 23% of the variance in withdrawal severity can be explained. Clearly, there are other factors that influence the detoxification experience.

Subjects' self-perception of the ease of withdrawal. Before leaving the detoxification program, subjects were asked to evaluate the ease or difficulty of this withdrawal, and the extent to which certain factors affected their detoxification experience.[27]

[27]Due to missing data and subjects who left the programs early, the sample size for these exit interview questions was slightly lower than the total of treated subjects. While the N at each site varied by as many as 3 depending on the particular question, the sample for most items included 198 subjects at MB, 68 at SS, 46 at BI, and 37 at LM.

When asked to compare this detoxification to others, taking into account withdrawal symptoms, those at Manhattan Bowery were most likely to respond that it was "very easy, experienced few symptoms," and in general, subjects in the two medical facilities tended to describe their detoxification as easier than did those at the non-medical facilities. Sixty-six percent of the men at MB gave the "very easy" response, in contrast to 44% of those at BI, 24% at LM and 15% at SS. Apparently MB's liberal use of medication was responsible for the high proportions of their clients reporting "easy" or "very easy" withdrawals. As shown in Table VIII-5, these responses were given by more than three-quarters of the MB clients, as opposed to about half of the men at BI and LM, and 35% of the men at SS.

TABLE VIII-5

Ease or Difficulty of Detoxification by Site[a]

	Percentage of subjects responding				
Site	Very Easy	Easy	About Average	Difficult	Extremely Difficult
MB (N=198)	66.2	12.1	11.1	7.6	3.0
BI (N=45)	44.4	8.9	26.7	15.6	4.4
SS (N=65)	15.4	20.0	33.9	18.5	12.3
LM (N=38)	23.7	26.3	26.3	18.4	5.3

[a] χ^2=70.54, df=12, p<.0001, phi=.45.

Subjects were also asked about the effects of withdrawal medication and medical care (or the lack of either) on their detoxification experience; their responses were coded to indicate whether these factors made this detoxification easier, harder, or had no effect. The perceived importance of withdrawal medication at MB was confirmed by these data, as the medication factor was cited by almost all (93%) of the MB clients as making the detoxification easier. In contrast, at BI, 52% of the men indicated that the medication they received made their withdrawal easier. Furthermore, there were five (11%) persons at BI who reported that this detoxification was actually harder due to a lack (or an inadequate amount) of medication. These results are consistent with the medication data reported previously, which showed virtually all the MB subjects receiving medication for the duration of their stay, as compared to 82% of the BI patients with medication on Day 1, decreasing to approximately 55% by Day 3.

At the non-medical facilities, the subjects were queried concerning their perceptions of effects of the absence of withdrawal medication. When compared to LM clients, SS subjects attributed more effect to the lack of medication. SS had about twice as many subjects (47%) as LM (24%) report that receiving no medication made this detoxification harder. On the other hand, nine percent of the men at SS said that this lack of medication actually made the detoxification easier, while only one man at LM gave this response.

There were parallel questions on medical care and lack of

medical care. As would be expected, most of the BI subjects (73%) found that the medical care made their detoxification easier. This was true for 65% of the MB subjects. The remaining clients at both of these facilities felt that the medical care had no effect on the ease of this detoxification. The lack of medical care was cited by 39% of the SS subjects as making the detoxification harder. This figure can be compared to 16% of the LM subjects who found the lack of medical care a negative factor. Again, these results are consistent with other data revealing differences between the non-medical facilities in their emphasis on para-medical treatment and monitoring, and referral to back-up medical facilities.

Diagnosis and care for medical problems unrelated to withdrawal. As presented in Chapter VI, data collected on the medical histories of the research sample revealed the plethora of medical problems that would be expected of an impoverished, alcoholic, skid row population. Non-medical programs have been criticized for their inability to diagnose and care for their clients' medical conditions that are not related to withdrawal, but might require treatment. Similarly, it was initially anticipated that the non-medical programs in the current study would be less effective than the medical programs in this regard. As described above, this hypothesis became further specified during the data collection process, as differences between the two programs associated with each of these modalities became apparent.

The prime basis for comparison of the four sites in this area

was the medical diagnoses recorded in the program files for each research subject. At the two medical programs these diagnoses were made and recorded by staff doctors. At BI diagnosis of disorders was always done within the detoxification unit (in rare cases assisted by a physician from another unit), while final diagnoses at MB were occasionally determined after a man had been referred for testing and/or treatment to a nearby hospital. Diagnoses were determined and recorded at the two non-medical facilities by their own para-medical staff, or, for those clients referred by LM or SS to a medical facility, by the medical staff at that facility. Site researchers were instructed to code current diagnoses as distinct from conditions the subject had had in the past (which were handled as medical history data), unless the facility treated the condition as a chronic one which required care.

The most commonly diagnosed disorders are shown separately for the four program sites in Table VIII-6. While the frequency of occurrence of particular disorders generally resembles those observed in these men's medical histories (i.e., the high proportions of lung disorders, GI disorders, and hypertension), the overall frequencies appear to be of little value, in that they are highly related to the study site making the diagnosis. Clearly there are considerable differences in these programs' ability or tendency to identify current medical conditions in their clients; these differences were revealed both in terms of the proportion of clients with any diagnosis and in the number of diagnoses associated with each client in the program.

Not surprisingly, BI diagnosed many more conditions in a greater proportion of clients than any of the other programs. BI diagnosed at least one acute or chronic medical disorder in 94% of its subjects, and averaged 2.38 diagnoses per subject. This contrasted with the other medical program, MB, which diagnosed a disorder in 57.6% of its clients, and averaged .76 diagnoses per client.

Table VIII-6

Medical Diagnoses Made by Study Sites[a]
(in percentages)

Medical Diagnosis	Site BI (N=53)	MB (N=224)	SS (N=80)	LM (N=45)	Total
Edema	3.8	3.2	--	8.9	3.3
Lacerations	7.6	3.2	5.0	--	3.8
Head injury	3.8	1.8	3.8	--	2.2
Tuberculosis	7.6	2.3	1.3	4.4	3.0
Respiratory disorders	26.4	8.1	--	8.9	9.0
Heart disorders	9.4	3.2	--	4.4	3.5
GI diseases	45.3	3.2	1.3	6.7	8.8
Seizure disorders	--	16.2	--	2.2	9.2
Hypertension	26.4	4.5	--	6.7	6.8
Skin diseases	32.1	3.6	--	4.4	6.8

[a]Due to missing data, the N at each facility varies slightly for some diagnoses.

The much higher proportion of subjects with diagnoses at Beth Israel may be attributed to three factors. It is possible that the greater withdrawal severity of BI subjects was, in some cases, due to a medical condition which exacerbated their withdrawal. However, these medical conditions were not directly responsible for clients' admissions because screening staff focused on the client's present withdrawal condition and to a lesser extent, the client's withdrawal history. Another reason for the greater number of diagnoses at BI is that, typical of a hospital facility, BI staff is very thorough in recording diagnoses. At MB, those conditions that are considered relatively minor and particularly common to the public inebriate population (e.g., skin diseases or gastritis) are infrequently recorded. Undoubtedly, BI's much more extensive medical testing and monitoring also contributed to the difference in diagnoses at the two medical programs.

It is noteworthy that the most frequent diagnosis at MB was seizure disorders, which were diagnosed in only one other subject (at LM) in the entire study. The 16.2% rate of seizure disorders at MB was at variance with the expected incidence in the general population which ranges from .5 to 2% (Petersdorf et al., 1983). Because it would seem unlikely that this discrepancy would be the result of random differences, this result was discussed further with MB medical staff. According to the MB Medical Director, this may be partially explained by the expectation that seizure disorders would occur two to three times more frequently in the public inebriate population because of their greater likelihood of

head trauma and long-term abuse of alcohol. Nevertheless, at least 10% of this discrepancy must be attributed to the former attending physician confusing seizure disorders with seizures specific to alcohol withdrawal. MB's results were quite comparable to LM's on these indices, as LM diagnosed at least one disorder in 51.1% of its subjects, and its mean number of diagnoses per subject was .63. SS diagnosed a disorder in 13.4% of its clients, and averaged .21 per client. The differences between the programs in proportions of subjects with at least one diagnosis (χ^2=87.10, df=3, p<.0001, phi=.47) and in the mean number of diagnoses per subject (F(3,397)=69.69, p<.0001) were highly significant.

In general, it would appear that BI's diagnoses data are the most veridical of the four study sites. This would suggest, of course, that the other programs -- MB included and SS in particular -- do not diagnose or treat many medical problems from which their clients are suffering.[28] Unfortunately, the data do not permit confirmation of this conclusion, and this explanation of the results must be viewed as tentative.

The differences between the two medical programs with regard to the handling of medical problems were also evident in their use of back-up facilities for their clients. In part these differences simply reflect MB's status as a freestanding facility; it referred 44 men (20%) to a local hospital before they had

[28]Whether it should be a goal or obligation of detoxification programs to diagnose and treat medical problems unrelated to alcohol withdrawal is a question not addressed by these results.

completed their detoxification. Some of these men were sent for treatment that could not be conducted in a freestanding facility, but as suggested above, many were also sent for further assessment, based on a suspected condition that MB's own testing could not confirm. BI, despite diagnosing great numbers of other medical problems in its clients, treated these problems while the client was in the detoxification unit.

Contrasts between the two non-medical facilities were also evident in their use of back-up medical facilities for clients with complications unrelated to withdrawal. As was the case for referral of clients for severe withdrawal problems, LM was much more likely than SS to send a man to a back-up program for examination or treatment for other medical problems. LM referred 13 subjects with these problems to medical back-up facilities, while SS referred only 2 such subjects. All 13 LM clients were able to return to complete detoxification at LM, while 1 of the SS referrals had to remain at the hospital. This again appears to reflect LM's "medical" orientation in a non-medical environment, and SS's tendency to identify and refer only those individuals who truly require medical care during the five-day detoxification period.

Data concerning each program's use of medication for various disorders diagnosed during a client's detoxification stay were also collected. Table VIII-7 presents the most commonly administered medications, and the percentages of clients receiving them in each of the programs.

The medical programs appear similar in their reliance on vitamins, and the degree to which they provide aspirin and antibiotic medication to their clients. Beth Israel, however, again stands apart, administering a much wider range of medication (represented by their 74% in the "other medication" category) than MB. A random sampling of these "other medication" cases at BI revealed the use of magnesium sulfate (for a magnesium deficiency), albuterol and theodor (for asthma), and cortisone and other skin lotions for rashes and skin diseases. This sampling suggested that BI took care in tailoring prescriptions to the

Table VIII-7

Medications Administered by Site[a]
(in percentages)

Medication	Site			
	MB (N=224)	BI (N=50)	SS (N=79)	LM (N=45)
Vitamin(s)	98.2	100.0	0	4.4
Aspirin/Acetominophen	6.3	6.0	0	26.7
Anti-itch	0.9	8.0	0	0
Antibiotic	12.5	12.0	2.6	4.4
Hypertension	1.8	0	2.6	2.2
Dilantin	16.1	0	0	2.2
Other med.	13.4	74.0	0	22.2

[a]Due to missing data, the N at each facility varies slightly on some medications.

particular needs of clients. As shown in the table, BI was also more likely to prescribe anti-itch medication for its clients, and MB prescribed dilantin to 16% of its clients, a drug that was never used at BI. The administration of dilantin at MB corresponds with this program's tendency to diagnose seizure disorders in unusually large numbers of its clients. If, as was suggested previously, many of these men actually had a history of alcohol-related seizures and not seizure disorders, the administration of dilantin to these men would be inappropriate, as it does not control alcohol-related seizures.

These data also provide further evidence of the differences between Social Setting and Lower Manhattan. Consistent with patterns revealed in results presented previously, SS appears to avoid the use of medication, while LM used aspirin or acetominophen with over one-quarter of their clients, and various other drugs in small numbers. SS's avoidance of medication again reflects this site's stated policy to provide detoxification treatment with minimal medical intervention.

Summary of safety results. Data presented in this chapter underscore the need to maintain distinctions among the four study sites in interpreting treatment results. Specifically, the two medical programs clearly differ from one another in their use of medication, and their approach to the diagnosis and care of other medical conditions. With regard to the non-medical programs, important differences were observed in their use of medical back-up facilities.

Nevertheless, these treatment differences did not appear to affect the severity of withdrawal experienced by clients randomly assigned to these programs. Analyses of vital signs data revealed no differences among clients at MB, SS and LM; the fact that BI clients were found to have significantly elevated pulse and blood pressure can be attributed to the uniqueness of the BI study sample, a result of this facility's admissions screening. This conclusion was directly supported by the multiple regression analyses of the composite withdrawal severity index, in which condition at intake, medical history, and to a lesser extent, age, were the best predictors of severity. It is perhaps most important that SS's clients did not evidence more severe withdrawal, since (in contrast to LM) this made very few medical referrals, and provided detoxification in a more purely non-medical environment.

The effects of withdrawal medication were evident in the control of alcohol-related seizures, and in clients' perceptions of the ease of withdrawal. MB's and BI's use of medication virtually eliminated seizures in clients at these facilities, while 5-10% of the clients in the non-medical facilities experienced seizures. While the occurrence of a seizure is considered a significant and potentially dangerous event, the non-medical programs ably handled these occasionally referring clients to back-up medical facilities. It is noteworthy that BI, despite providing medication to considerably fewer clients, was as successful as MB in preventing seizures in its clients. On the

other hand, MB's more liberal use of medication did have the effect of making its clients perceive their withdrawal experience as relatively painless; clients at MB were much more likely to describe their detoxification as "very easy" than were clients at the other three sites.

In contrast to the withdrawal severity data, data concerning the diagnosis and care of other medical conditions clearly reflected treatment differences observed at the study sites. BI's more extensive diagnostic capabilities and more thorough recording method appeared to result in the identification of many more disorders in its clients. MB made many fewer diagnoses, approximately the same number as LM, whose dependence on medical back-up facilities led to the identification of many more disorders than might be expected of a non-medical facility. Whether it is the responsibility of detoxification facilities to make diagnoses and provide care beyond the management of withdrawal syndrome is open to question; the plethora of disorders identified by BI, however, would seem to make this question especially pertinent.

CHAPTER IX:
REHABILITATION EFFICACY

Any comparison of the efficacy of the various detoxification programs necessitates an examination of the clients' experiences while in those programs. Their experiences with respect to the detoxification process -- withdrawal symptoms, types and dosages of withdrawal medication, medical care and diagnoses -- were discussed above. Most program operators would assert that, in addition to the provision of adequate care during alcohol withdrawal, motivating clients to continue in post-detoxification treatment is an important criterion of a program's success. Attempts at motivating clients to enter aftercare is typically the responsibility of the detoxification program's alcoholism counselors. An examination of the data pertaining to counseling obtained by clients in the study sites is presented below. This discussion is followed by an analysis of the completion rates for the various programs and the average number of days spent in each program. For those clients who completed the detoxification program, the types and dispositions of their referrals for treatment are described. Finally, analyses of readmissions for detoxification within four months after participating in the research are presented.

Counseling sessions. The number of individual and group counseling sessions scheduled and the emphasis placed on attendance at these sessions varied from program to program. At the two non-medical programs and at MB attendance was

mandatory (unless the client was too sick to get out of bed -- which at MB was frequently used as a reason for non-attendance), while BI required attendance if the counselor so indicated. The significant differences in the average number of individual sessions attended are most likely the result of different staffing levels. As shown in Table IX-1, subjects at MB attended the fewest number of sessions, either individual or group.

Table IX-1

Counseling Sessions Attended

	Session Type			
	Individual[a]		Group[b]	
Site	Mean	(N)	Mean	(N)
MB	1.58	(222)	0.50	(224)
SS	1.68	(73)	2.32	(79)
BI	2.37	(49)	1.48	(50)
LM	2.20	(45)	3.89	(45)

[a] $F(3,385)=16.93$; $p<.0001$.
[b] $F(3,394)=91.51$; $p<.0001$.

Subjects at BI and LM had more individual sessions with counselors than did those at SS and MB. The relatively large number of group sessions attended by SS and LM subjects probably reflects these programs' emphasis on counseling; the greater number of sessions attended at LM is most attributable to the tendency for subjects to remain there beyond the five-day detoxification period. While AA meetings were not mandatory at any of the detoxification facilities (their anonymity precludes

taking attendance), there were similar differences among subjects at the four sites in the mean number of AA meetings attended ($F(3,394)=219.01$; $p<.0001$). As with group counseling, subjects treated at LM attended the most AA meetings during their stay ($\bar{X}=5.5$), as compared to a mean of 3.6 meetings at SS, 3.4 at BI, and 0.5 at MB.

It is possible that attendance at these counseling sessions and meetings reflects a generally positive view of the LM program by its clients, and reflects a negative view by MB subjects of that program. With regard to LM, this was substantiated in the subjects' exit interviews, which indicated that individuals treated at LM were generally more satisfied with the counselors and atmosphere than were those treated at the other three facilities. When asked what factors made the current detoxification easier or harder than usual, 84% of the LM subjects reported that the counselors made it easier and 82% indicated that the general atmosphere made the detoxification easier. These percentages were considerably higher than the proportions of subjects in the other three programs who reported that the counselors or the atmosphere made the detoxification experience easier (see Table IX-2 below). This is true despite the fact that LM subjects did not report finding the current detoxification experience as a whole any easier than did subjects at the other sites. Only SS subjects (15%) were less likely than LM subjects (24%) to say they found the current detoxification experience "very easy"; this contrasts with the 44% of BI subjects and 66% of MB subjects who reported the current experience to be very easy.

There is an alternative explanation for the small proportion of MB subjects who reported that the counseling and atmosphere made their detoxification easier. That is, the effect of withdrawal medication may have been so strong as to render other factors less relevant. Virtually all MB clients received such medication throughout their stay, and a very high percentage reported this detoxification to be easier than their prior detoxification experiences.

TABLE IX-2

Effect of Counselors[a] and General Atmosphere[b] on the Detoxification Experience
(in percentages)

Site	Effect		
	Harder	No Effect	Easier
LM (N=38)			
Counselors	3	13	84
Atmosphere	5	13	82
BI (N=45)			
Counselors	7	43	50
Atmosphere	9	24	67
SS (N=63)			
Counselors	5	38	57
Atmosphere	16	24	60
MB (N=198)			
Counselors	5	73	22
Atmosphere	6	66	28

[a] $\chi^2=68.87$; df=6; p<.0001; Cramer's V=.32
[b] $\chi^2=75.32$; df=6; p<.0001; Cramer's V=.33

The exit interview contained a series of questions regarding the subject's evaluation of the counseling process: How well did

the counselors understand your problems; did you meet with the counselor often enough; were the group discussions useful and did they meet often enough. The subjects' ratings of their counselors' understanding were generally quite positive (i.e., "very well" or "well"), and somewhat consistent with their responses to the question regarding the effect of counselors on the detoxification experience. That is, counselors at LM were rated most highly (47% very well and 50% well) followed by those at BI, (43% very well and 41% well) and SS (45% very well and 36% well). The comparable proportions at MB were 34% very well and 41% well. Thus, while the least positive ratings were at the Bowery, nearly three-fourths of MB subjects felt their counselors understood them well or very well; this is reflected in the significant (χ^2=17.19; df=9; p<.05) but quite weak relationship between site and response to this question (Cramer's V=.13). There was no relationship between treatment site and the subject saying that he had met with his counselor as often as he would like -- 71% of the subjects said they were satisfied with the number of meetings.

Nearly 90% of the subjects found the group discussions at least somewhat useful. There was a significant relationship between site and response to this question (χ^2=26.67, df=6; p<.001), with subjects at SS most likely to find the group discussions "very useful" (64%) and those at MB least likely to find the groups very useful (26%). Because only four out of 243 subjects felt the discussions were "harmful," their responses are

combined with those who said "not at all useful," both for calculating the statistics and for presentation of these data in Table IX-3. In general the subjects felt the groups met often enough, but 29% of the SS subjects indicated the meetings were too infrequent, perhaps a result of their being perceived to be particularly effective. The percentages of clients dissatisfied with the number of group meetings at the other sites were 11% at MB, 15% at BI, and 13% at LM.

TABLE IX-3

Usefulness of Group Discussions by Site[a]
(in percentages)

	Usefulness		
Site	Not at all	Somewhat	Very
MB (N=98[b])	15	59	26
SS (N=64)	3	33	64
BI (N=43)	16	37	47
LM (N=38)	8	45	47

[a] $\chi^2=26.67$; df=6; $p<.001$
[b] Group attendance is not mandatory at MB, and those subjects who did not attend any groups did not respond to this question.

Program completion rates. One of the impact hypotheses specified in the original proposal stated that early termination would be more frequent among subjects in non-medical programs than in medical programs. The basis of this hypothesis was the expectation that some social setting subjects would have to leave for medical reasons, and others would find withdrawal without

medication to be intolerable. Evidence in support of this latter point was presented previously when it was noted that subjects in the two medical facilities were more likely than those in the non-medical facilities to perceive their detoxification to be "very easy" and to attribute this ease of withdrawal to the medication they received. It remains to be seen, however, whether the subjects' perceptions of the ease or difficulty of the experience, or whether the objective indicators of the severity of withdrawal are related to completion of the detoxification.

As was discussed in Chapter IV above, the four facilities did not have uniform program lengths: at MB and SS the standard length of stay was five days, and the only reason a client might stay longer was for medical problems. The standard length of stay for detoxification patients at BI was six days, and patients were kept longer for medical reasons only. At LM the "official" standard length of stay was five days, but clients were routinely allowed to stay until space was available in a residential rehabilitation program. These differences in policy are reflected in the total number of days treated research subjects spent in the programs. A one-way analysis of variance revealed significant differences between the programs on this variable ($F(3,397)=40.94$; $p<.0001$). The means were 4.4 days for SS subjects, 4.9 for MB subjects, 5.7 for those at BI, and 7.6[29] for LM subjects.

[29]This is an underestimate of the mean for LM subjects because stays of nine days or longer were coded as "9," and there were some subjects who remained at LM in excess of two weeks.

The conditions under which each subject left the detoxification program were coded as "completed program," "left early (against medical advice, or AMA)," "discharged early, no further detoxification necessary" or "discharged early, other reason." (Clients in this last category typically were discharged because they were making trouble with the staff or other clients.) LM had the highest completion rate (96%), which is likely attributable to the clients finding the atmosphere pleasant and the counselors helpful. They also knew that the counselors would try to make a post-detoxification referral to an inpatient facility, which may have given them greater motivation to wait out the withdrawal period.

As can be seen from Table IX-4 below, the second highest rate of program completion was at BI, probably because BI offered both withdrawal medication and a relatively luxurious environment. All but two of the BI subjects who did not complete the program were individuals who were discharged after the 24- to 48-hour observation period because they were considered not in need of the detoxification services provided by a hospital. While 11% of the subjects at MB were discharged before completing the five-day detoxification period because they had no further need of treatment, it is likely that the reasons for their discharge were not the same as those at BI. Specifically, the early releases at MB probably reflect instances in which the client indicated to his counselor that he no longer was in need of detoxification and wished to leave. Since MB clients are

Table IX-4

Site by Conditions of Leaving[a]
(in percentages)

Site	Conditions of Leaving: Completed program	Left AMA	No need of further detox	Discharged early
MB (N=223)	74	13	11	3
SS (N=82)	78	17	0	5
BI (N=50)	84	2	12	2
LM (N=45)	96	0	0	4

[a]Because of small expected frequencies, a valid chi square could not be computed.

penalized for "signing out," a sympathetic counselor might be willing to discharge him early. MB had a lower completion rate and higher rate of clients leaving AMA than did BI; this may be explained by MB's less stringent admissions requirements and less pleasant environment. Some of MB's clients were probably using the program for shelter and would be more likely to leave AMA when the craving for alcohol increased or if they were expecting a welfare or other benefit check. The rates of completion and leaving AMA at SS were similar to those at MB, probably for similar reasons.

Thus, these data do not support the initial hypothesis that the medical facilities would have higher completion rates than the non-medical facilities. LM had the highest completion rate

(96%) and MB had the lowest completion rate (74%), but BI (84%) had a higher completion rate than SS (78%). Virtually all MB subjects received withdrawal medication for their entire stay in the detoxification program, and MB subjects were most likely to state that the detoxification was very easy compared to prior experiences. Yet, MB had the lowest completion rate. The explanation for the differing completion rates, therefore, must be more complex than the initial hypothesis provided.

Referrals for treatment. The four programs in the research attempt to refer all clients who complete the detoxification to either residential or outpatient treatment. Some clients refuse further treatment or claim they have their own plans for treatment; such clients are released without a referral for treatment. In the research proposal it was hypothesized that, because social setting programs are more likely than medical programs to focus on social services and use more restrictive criteria in identifying referrals they consider appropriate, a higher percentage of MB and BI subjects than of SS (and LM) subjects would be referred for treatment. Furthermore, because non-medical programs are expected to emphasize the importance of making a referral that is appropriate for the particular client, it was predicted that of clients referred for treatment, a higher proportion of social setting than medical clients would carry out that referral.

The data do not support the first part of the hypothesis; that is, MB made referrals for 95% of the clients who completed

the program. There was little difference among the other three programs, however, on the proportion of clients referred for treatment: 82% of the SS subjects, 80% of the BI subjects and 77% of the LM subjects received referrals for post-detoxification alcoholism treatment. As can be seen in Table IX-5, however,the types of referrals made varied substantially. The most striking difference is between LM and the other three programs. Fully 52% of the LM subjects who completed the detoxification were referred to residential rehabilitation facilities, as compared with 6% at BI, 4% at SS, and none at MB. With the exception of LM's referrals, clients were most commonly referred to outpatient

Table IX-5

Type of Post-Detoxification Referral by Site[a]
(in percentages)

Site	Referral Type: Residential	Outpatient	Non-rehabilitative
MB (N=176)	0	97	3
SS (N=51)	4	82	14
BI (N=33)	6	64	30
LM (N=33)	52	9	39

[a] $\chi^2 = 165.91$; df=6; p<.001; Cramer's V=.75

rehabilitation. At MB all but four of the outpatient referrals were to the program run by the Manhattan Bowery Corporation and housed in the same building as the detoxification program. SS

also made a substantial number of referrals to outpatient programs, most of them to the one run by MBC. Nearly two-thirds of the subjects who completed their detoxification at BI were referred to outpatient rehabilitation, 12 to the program operated by Beth Israel Medical Center and 9 to other outpatient facilities (most likely to the program run by MBC). LM made only three such referrals, two of which were to the program run by its parent organization, the Bowery Residents Committee. While MB and SS made little use of non-rehabilitative referrals (custodial residences, Salvation Army, missions, etc.), 30% of the subjects treated at BI and 39% of those treated at LM received such referrals.

These differences reflect the referral philosophies of each of the program sites. As noted previously, SS and MB counselors believed that residential referrals are appropriate only for clients who have not had much prior experience with this treatment; for clients with such experience, however, they regarded a residential referral as "enabling" and believed attendance at an outpatient program would reflect a true commitment to recover. The majority of BI's referrals were also to outpatient treatment (many of which were to its own program); however, BI also made a substantial number of non-rehabilitative referrals. These non-rehabilitative referrals, which were also common at LM, probably reflect the staff's concern for clients' shelter needs.

LM is clearly unique in its high proportion of residential referrals. The scarcity of inpatient beds in the New York City area and the structure of detoxification programs makes it very difficult for residential referrals to be arranged. The few facilities in which beds were available were State-run (or in a few cases, Veteran's Administration) rehabilitation programs, and only LM was willing to hold clients long enough to obtain a bed in these facilities.

Given the need for shelter and the difficulty of maintaining sobriety while homeless, one would expect clients referred to residential aftercare to be more likely to complete these programs than those referred to outpatient programs. In addition, residential programs are shorter and, therefore, have a lower risk of clients dropping out. The data presented in Table IX-6 below support these arguments. Clearly the non-rehabilitative and residential treatment programs had virtually identical patterns with regard to clients' failure to appear, leaving before completing treatment, and completing the treatment. While over 40% of those referred to residential programs completed them, only 6% of those referred to outpatient programs completed the treatment.

Table IX-6

Completion Rates for Post-Detoxification Referrals[a]
(in percentages)

Referral Type	Outcome		
	No show	Left early	Completed[b]
Residential (N=21)	52	5	43
Outpatient (N=228)	79	15	6
Non-rehabilitative (N=32)	53	6	41

[a]Small expected frequencies precluded computation of valid significance tests.
[b]Includes individuals who were still enrolled in the program at the time of the final follow up.

As is evident from the data presented in Table IX-6 above, clients referred to residential treatment or non-rehabilitative facilities were more likely to complete these programs than were those referred to outpatient treatment. Because LM was more likely to make residential or non-rehabilitative referrals than were the other three programs (see Table IX-5), it follows that LM clients should be more likely to enter and complete their post-detoxification treatment. Nearly 38% of the LM clients completed their post-detoxification treatment, as compared to 12% of the BI clients, 8% of those from SS and 6% of the MB clients. These data are presented in Table IX-7. Clearly, it would be

Table IX-7

Outcome of Referral by Site[a]
(in percentages)

Site	Outcome: No show/ No referral	Outcome: Left early	Outcome: Completed
MB (N=184)	80	14	6
BI (N= 43)	74	14	12
SS (N= 61)	84	8	8
LM (N= 40)	55	8	38

[a] χ^2=35.39; df=6; p<.0001; Cramer's V=.23

desirable to include all three variables (site, type of referral, and outcome of referral) in a single analysis. Such an analysis would indicate whether the rate of follow up of referrals is jointly dependent on type of referral and the facility making that referral. Unfortunately, in the current research the sample size is too small for such analysis.

Readmission for detoxification. One measure of the efficacy of a detoxification program is its success in getting clients to accept post-detoxification treatment; another such measure might be the length of time its clients maintained sobriety. The current research offers no way to measure directly how long any of the subjects stayed sober; however, data were collected on the number of times subjects entered detoxification programs within four months after participating in the research. These data were

obtained through the cooperation of 22 detoxification programs (in addition to the four that participated in the research) in the five boroughs of New York City. These 26 programs cover most of those available to indigent alcoholics in the City; only three of the programs whose cooperation could not be obtained would be likely to serve the subjects of this research. These are two Veterans Administration hospitals and one voluntary (private, not-for-profit) hospital. All of the sobering up stations and public hospitals (as well as a number of private hospitals) provided data. Thus, it is likely that the obtained readmissions data represent a slight underestimate of the number of readmissions for detoxification during the four-month study period. However, because none of the three non-participating programs was more likely to be used for referrals by one study site than another, these underestimates should be randomly distributed across subjects treated in the four sites.

The original proposal contained no specific hypotheses about readmissions for detoxification. One would expect that the program(s) which were most successful in terms of referrals for rehabilitation would show the lowest readmission rates. On this basis, LM should have the fewest number of readmissions and the longest time between release from detoxification and the first readmission. The data do not support this hypothesis: 26% of the subjects treated at BI, 28% of those treated at SS, 36% of those at LM, and 38% of those at MB were admitted to a detoxification program at least once within four months after

participation in the research (there was no significant relationship between site and being readmitted). Similarly, there was no significant difference among the sites on the mean number of readmissions; the mean number of readmissions across sites was 0.69.

One might also expect subjects treated at LM to have the longest time between release from detoxification and readmission (because LM subjects were most likely to be in residential treatment). To investigate this possiblity, an analysis of variance was computed on the number of days that elapsed between a subject's release from the detoxification study site and readmission. Obviously, this analysis could be done only on those subjects who were readmitted at least once during the four-month follow-up period (N=138). The results of this analysis revealed no significant difference between the four study sites; the mean number of days to the first readmission was 47.6, approximately seven weeks.

Thus, analyses of likelihood of readmission, number of readmissions, and length of time between release and the first readmission revealed no differences among the four study sites, despite the relative success of LM in placing subjects in residential treatment. There was, however, a significant (χ^2=6.20; df=2; p<.05) though weak (Cramer's V=.13) relationship between the outcome of a referral for treatment and the likelihood of being readmitted for detoxification within four months. Those who entered and completed a post-detoxification

program of any kind were less likely to have been readmitted (19%) than those who entered but left early (27%) or those who never entered or were not referred anywhere (38%).

These findings are inconsistent: LM made the most referrals to residential programs; clients referred to residential programs had the highest completion rates; and clients who completed the rehabilitation programs had the lowest readmissions rates. This would lead one to expect LM to have the lowest readmission rate, but it did not. Another confusing finding was that there was no relationship between type of referral and likelihood of readmission. In fact, clients who received no referral were no more likely than those who received referrals for inpatient rehabilitation to be readmitted for detoxification within four months (see Table IX-8). On the face of it, these relationships are contradictory. One possible explanation is simply that the numbers are too small to reveal a consistent and predictable pattern; although 43% of those referred to residential programs completed that treatment, there were only 21 such referrals and nine who completed the treatment. Furthermore, although 38% of the 21 men who received referrals to residential programs were subsequently readmitted to detoxification, that 38% represents only eight individuals. Thus, if the number of research subjects were larger, and there were more subjects referred to the various types of post-detoxification treatment programs, it might be possible to find more consistent effects. Unfortunately, because of the small numbers, it is beyond the scope of the current

Table IX-8

Type of Referral by Readmission for Detoxification
(in percentages)

	Readmitted	
Referral	Yes	No
None (N=60)	35	65
Residential (N=21)	38	62
Outpatient (N=250)	34	66
Non-Rehabilitative (N=38)	29	71

research to investigate in depth any of the subgroups (e.g., subjects who complete residential treatment) to determine which type of referral is most effective in reducing the likelihood of readmission. Alternatively, recent reviews of treatment research suggest that most types of alcoholism treatment currently used in the United States are not particularly effective (Miller and Hester, 1985). Thus, it is quite possible that, regardless of the type of referral received or the outcome of that referral, most of the members of this population can be expected to re-enter the revolving door.

Despite the lack of treatment effects on readmissions, it was of interest to determine whether subjects who had received medical detoxification in the research would be likely to choose medical detoxification again, and similarly, whether those who had been treated at SS or LM would choose non-medical

detoxification. There was no relationship between study site and type of detoxification program for the first readmission; 58% of those who were readmitted to any facility were readmitted first to MB. Moreover, subjects who had been treated at LM (69%) or SS (74%) were as likely as those who had been treated at MB (71%) or BI (77%) to be readmitted to a medical detoxification program. Analyses of variance on number of readmissions to medical detoxification programs and to non-medical detoxification programs also revealed no significant differences among the study sites.

Multivariate analyses of readmissions. The bivariate analyses presented above suggest that clients who completed their post-detoxification treatment have lower readmission rates than those who either never entered a post-detoxification program or entered and left before completion. These analyses also revealed no significant differences among the four sites on the readmissions variables. Thus, the question of what factors predict how soon and how often public inebriates are readmitted for detoxification remains unanswered.

In an attempt to determine the predictors of number of readmissions within four months, a hierarchical multiple regression analysis was computed using as predictors those variables which might logically be related to readmissions. The choice of variables and order in which they were entered into the regression was determined theoretically, and not by their correlations with the criterion variable. The predictors included in the initial analysis and their correlation with

number of readmissions were age (r=-.08); race/ethnicity, dummy coded into two variables (r_1=-.06, r_2=.07); homelessness (r=.07); socioeconomic status (r=-.02); number of detoxifications prior to entering the research (r=.21); days since the last detoxification (r=-.15); number of times in outpatient alcoholism treatment (r=.18); years of heavy drinking (r=-.08); completion of the detoxification program (r=.04); referral type, dummy coded into three variables (r_1=-.01, r_2=-.005, r_3=-.06); whether the client entered and completed an aftercare program (r=-.11); and site, coded into three variables (r_1=.06, r_2=-.09, r_3=-.004). These correlations are quite low, and it is not surprising that the resultant multiple correlation was fairly low (R^2=.14, $F(17,297)=2.86$, $p<.001$).

The analysis was rerun, dropping those variables which failed to predict at least one percent of the variance in number of readmissions. The final regression included number of previous detoxifications, number of times in outpatient alcoholism treatment, number of times in residential alcoholism treatment, whether the client entered and completed an aftercare program, and site. The results of this analysis are presented in Table IX-9 below. With seven predictors it was possible to explain 11% of the variance in number of readmissions ($F(7,354)=6.16$, $p<.001$). It is clear that the best predictor of the number of times a man is readmitted subsequent to being in the research is his number of previous detoxifications. In addition, the number of times he was in outpatient alcoholism

Table IX-9

Regression Summary
Number of Readmissions

Variable	Simple r	Partial r	% of variance accted for	F	(df)
No. prev. detox.	.24	.24	5.6	21.48^	(1,360)
No. times in OP	.18	.15	2.1	8.33+	(1,359)
No. times in res.	.13	.03	<1	<1	(1,358)
Comp. treat (Y/N)	-.11	-.11	1.1	4.47*	(1,357)
Site			1.9	2.46	(3,354)
SS dummy var.	-.08	-.10			
BI dummy var.	-.002	-.10			
MB dummy var.	.06	-.04			

*p<.05
+p<.01
^p<.001

treatment also predicts how many times he will enter detoxification within four months of entering the research. Completion of post-detoxification treatment is a weak predictor of number of readmissions; those subjects who completed their post-detoxification treatment tended to have fewer readmissions. Site is also a weak predictor -- subjects treated at SS or BI tended to have fewer readmissions than those treated at MB or LM.

One would expect similar variables to predict the length of time between release from the study site and the first readmission. Therefore, using only those subjects who entered a detoxification program at least once subsequent to the research (N=122), a hierarchical regression was computed on number of days to first readmission. The predictors entered in the initial regression and

their correlations with number of days to first readmission were age (r=.03); race, 2 dummy variables (r_1=-.15, r_2=.18); homelessness (r=-.007); socioeconomic status (r=-.02); number of previous detoxifications (r=-.13); years of heavy drinking (r=.04); completion of detoxification (r=-.02); type of post-detoxification referral, 3 dummy variables (r_1=.07, r_2=.01, r_3=.07); whether the client entered and completed an aftercare program (r=.27); and site, 3 dummy variables (r_1=.07, r_2=-.07, r_3=-.09). As would be expected from the low zero-order correlations, many of these predictors explained less than one percent of the variance in number of days to first readmission.

The final regression analysis included only those variables that explained at least one percent of the variance in days to first readmission. The analysis included race, number of previous detoxifications, type of referral, and completion of aftercare program. Also, amount of family contact was added as a predictor. The results of that analysis are presented in Table IX-10 below. The eight predictors accounted for 22% of the variance in days to first readmission ($F(8,113)=3.97$, $p<.001$), with half of the explained variance the result of knowing whether a subject completed his post-detoxification treatment. As would be expected, more time elapsed before the first readmission for those subjects who completed their treatment than for those who did not. It should also be noted that amount of family contact was a significant contributor in this analysis, explaining 4.8% of the variance; those subjects

Table IX-10

Regression Summary
Days to First Readmission

Variable	Simple r	Partial r	% of variance accted for	F	(df)
Race			3.2	2.02	(2,119)
Black dummy var.	-.15	-.03			
White dummy var.	.18	.18			
No. of prev. detox.	-.13	-.10	<1	1.17	(1,118)
Family contact	-.17	-.22	4.8	6.13*	(1,117)
Referral type			2.4	1.03	(3,114)
Res. dummy var.	.07	.08			
OP dummy var.	.01	.11			
Non-rehab. dummy	.07	.10			
Comp. treat. (Y/N)	.27	.34	11.0	15.22^	(1,113)

*p<.05
^p<.001

who had more frequent family contact were likely to stay out of detoxification programs longer than those with less contact.

A comparison of the data in Tables IX-9 and IX-10 reveals predictable differences with regard to the variables found to contribute to number of readmissions and days to first readmission. Because most subjects were not readmitted over the four-month follow up (the mean number of readmissions for the entire sample was .69), the variables found to predict number of readmissions may also be regarded as predictive of <u>any</u> readmission. The results of this analysis suggested, then, that persons who are readmitted (and readmitted most frequently) are those who have relied on alcoholism treatment in the past, and especially those who have had many previous detoxifications. On

the other hand, the days to readmission analysis concerned only those subjects who were readmitted at least once, and revealed variables that would be uniquely predictive of a later return to detoxification. Specifically, the two most significant contributors in this analysis, contact with family and completion of post-detoxification treatment, would be expected to inhibit return to detoxification within a short period of time.

Summary of rehabilitation efficacy results. As was the case with results concerning program safety, treatment differences at the four study sites appeared to have only a partial impact on the programs' success in encouraging alcoholism rehabilitation. Counseling data indicated that clients at MB received the least amount of counseling, LM clients received the most, with SS and BI intermediate and quite comparable to one another. The extent to which clients attended counseling sessions mirrored their self-reported belief that the program counselors and the program's atmosphere eased their detoxification experience (most of LM's respondents believed that the counseling had such an effect, while few of MB's held such a belief. This was also true to some degree with regard to satisfaction with counseling sessions, although counselors in all four programs were generally given very high marks by their clients.

Data concerning subjects' length of stay and their conditions of leaving were also presented in this chapter. It had been hypothesized that subjects would be more likely to leave

the non-medical programs before completion. This was only borne out at SS, as no one left LM "against medical advice" (perhaps as a result of this site's relatively pleasant atmosphere and helpful counselors). BI also had only one client leave AMA, in contrast to the 13% who left MB under this condition.

Post-detoxification referral practices were quite varied among the four study sites, with, again, LM and MB reflecting the two extremes. MB made almost exclusively outpatient referrals (typically to its own program), while LM staff made such referrals in only 9% of their cases. SS was most similar to MB in making more outpatient referrals (82%), although BI also used outpatient programs for the majority of its clients (64%). LM stood apart from the other sites in its reliance on residential alcoholism treatment referrals for clients (52% -- no other site made more than 6% residential referrals).

As might be expected of a largely homeless population, outpatient referrals were found to be the least successful in terms of completion, while referrals to residential alcoholism programs and non-rehabilitative programs showed substantially higher rates of completion (43% and 41%, respectively). It follows from this that LM was most successful in terms of making referrals which were completed by its clients (38%); the completion rates for the other sites were 12% at BI, 8% at SS and 6% at MB.

The results concerning readmissions to other detoxification sites throughout New York City were surprisingly inconsistent

with the referral type and completion data. Despite the programmatic differences observed above, the readmissions results showed no site-specific differences. Two possible explanations of this are that the sample sizes are too small to reveal relationships (only 21 men received residential referrals), or that, regardless of treatment attended and/or completed, treatment is ineffective in "blocking the revolving door" that characterizes this population's use of detoxification facilities. Multivariate analyses of readmissions similarly revealed no site effects, and pointed to variables that would be expected to predict these outcomes. Specifically, readmission to a detoxification facility (and number of readmissions) was best predicted by number of prior detoxification readmissions, and to a lesser extent, previous times in other alcoholism treatment. A separate analysis indicated that completion of a post-detoxification referral and increased family contact led to a longer time period before readmission.

CHAPTER X:
DISCUSSION AND IMPLICATIONS

As originally proposed, the research was designed as a controlled test of the safety and efficacy of non-medical as compared to medical detoxification for public inebriates. Through the use of random assignment procedures, different modalities would be compared and allow conclusions to be drawn regarding the research questions. However, as was discussed in the preceding chapters of this report, once the research was implemented, it became clear that modifications to the design would be necessary to accommodate the operations of the programs. These accommodations provided both statistical complications and important, though unanticipated, research results.

Serendipitous findings. One of the most important findings of the research was the result of the stringent admissions criteria utilized at BI, the hospital-based medical facility. As has been discussed in earlier chapters, these requirements are fairly standard in voluntary and proprietary hospitals, whose major source of funds is third-party payments. The effect of these criteria is to exclude the great majority of the homeless alcoholic population from detoxification treatment in hospital-based programs. Although the present findings suggest that most public inebriates can safely detoxify outside a hospital, this lack of access has serious implications for these individuals' ability to obtain general medical care.

The great majority of the subjects in this research were

homeless, did not have active Medicaid or the documents to demonstrate eligibility, and thus their only access to most hospitals would be in an acute medical emergency. Yet, the BI data clearly showed that most of them suffer from chronic medical problems resulting from years of alcoholism and lack of shelter, e.g., respiratory and gastrointestinal disorders, lacerations, and skin disorders. These problems tend to remain untreated except for those periods spent in medical (or "medically oriented") detoxification programs. These detoxification programs, however, are not structured or funded to provide the outpatient medical care that is needed for such chronic conditions. Providing such care through clinics, or through augmented resources at detoxification programs, would surely reduce human suffering. It might also check the development of conditions before they become acute, and thereby reduce the public costs incurred when homeless alcoholics become emergency room patients or require long-term inpatient care.

Having to replace the SS study site during the research period led to another unexpected finding. The literature describing the non-medical detoxification model would lead one to expect all such programs to be relatively homogeneous in terms of physical space, use of medical back-ups, and general treatment philosophy. When LM was brought into the study, it became quite clear that this was not the case. While SS and LM were similar with regard to their funding source, the population they served, and their eschewal of withdrawal medication, they were quite

different with respect to treatment philosophies and their degree of reliance on medical back-up facilities.

According to Manhattan Bowery Corporation staff members, SS was designed to test the hypothesis that withdrawal from alcohol could be accomplished safely with minimal reliance on medical back-ups. It was for this reason that blood pressure readings were not taken at SS and that the decision whether to admit an individual to the facility was based on the admitting staff's judgment, without the use of a medical facility for admissions clearance. With regard to post-detoxification referrals, the program philosophy dictated that residential alcoholism treatment referrals should be made only for those clients whose prior inpatient treatment experience was quite limited. The reasoning behind this policy was that the major benefit of residential treatment concerns alcoholism education, and after three or four admissions to such treatment, additional referrals lose their effectiveness and may even encourage dependence.

In contrast, LM staff relied heavily on medical facilities to determine whether prospective clients could detoxify safely in a non-medical environment. They were also more likely than SS staff to refuse admittance on medical grounds. For those individuals who were admitted to LM, the experience was more medically-oriented than was that at SS -- blood pressure readings were taken regularly for the first three days and there were more paramedical staff members at LM than at SS. This level of care was similarly extended to post-detoxification referrals. LM

staff felt that their clients' chances for recovery were increased with longer periods of sobriety, and that such periods were enforced by residential treatment. Regardless of the client's past treatment history, LM felt each detoxification offered another chance for recovery and that inpatient treatment provided the best opportunity for effecting this recovery. Efforts were made to secure inpatient treatment beds for as many clients as possible, and the LM length of stay was routinely extended by as much as two weeks to increase the likelihood of such referrals being implemented. When an inpatient rehabilitation bed was simply unavailable for someone expressing motivation to remain sober, residential, non-rehabilitative referrals were given.

It is clear from these differences between the two non-medical study sites that not all non-medical facilities are alike. It was also evident from interviews with research subjects that they perceived the two facilities differently, with subjects at LM reporting greater satisfaction with the atmosphere and counseling than those at SS. While it might be expected that such differences in treatment philosophy and atmosphere might translate into differences in outcome, with the exception of the frequency of medical diagnoses, the anticipated effects were not in evidence. The results are discussed in detail below.

Safety issues. The central questions with regard to safety focused on whether public inebriates can detoxify safely in a

non-medical setting. The outcome measures included severity of withdrawal symptoms, hospital referrals, diagnosis of ancillary medical problems, and clients' perceptions of factors contributing to the ease or difficulty of the withdrawal. As was discussed in Chapter VIII, the only significant difference in withdrawal severity was that BI clients were found to have higher pulse and blood pressure than clients of the other three facilities. As was confirmed in the multivariate analyses, this was entirely attributable to BI's screening procedures. The lack of withdrawal medication at the two non-medical sites did not appear to adversely affect the clients, with the exception of the five to ten percent who experienced seizures. The success of the non-medical facilities in handling these occurrences was evidenced by their prompt referrals to back-up medical facilities, and the fact that the majority of clients referred for alcohol withdrawal problems were treated and returned to the detoxification facility.

Although the withdrawal severity data indicate that clients treated in non-medical facilities did not undergo any more severe withdrawal than those treated in medical facilities, the data on client perceptions evinced clear differences among the programs. The subjective effect of withdrawal medication was readily apparent in subjects' self-reports, as those treated at MB were more likely than those at the other three facilities to report that they found the current detoxification to be "very easy" in comparison to prior experiences. Subjects treated at BI, where

medication was used in fewer cases than at MB, were more likely to give this response than those treated at either LM or SS. When asked what factors contributed to the ease or difficulty of the current detoxification, subjects at MB (and to a lesser extent at BI) indicated that the medication made the experience easier. Thus, despite the objective evidence provided by the withdrawal severity data, it appears that clients in the medical facilities perceived the detoxification to be easier than did those in the non-medical facilities.

This difference in perceptions was apparently not sufficient to induce non-medical clients to leave the detoxification facility prior to completing the five-day program. In the original research proposal, it was hypothesized that the difficulty of withdrawal without medication would result in a higher rate of early terminations from the non-medical programs. The data did not support this hypothesis: At least three-quarters of the subjects at each site completed their withdrawal before leaving, with the highest rate of completion at LM. Thus, it appears that there were factors other than the perceived difficulty of the withdrawal that convinced subjects to stay.

Another hypothesis in the research proposal was that the two medical facilities would diagnose more medical problems than would the non-medical programs, but there would be no difference between BI and MB. While there were significant differences among the facilities with regard to diagnosis and treatment of other medical conditions, these differences did not support the

hypothesis. That is, BI staff diagnosed far more medical problems than did any of the other facilities; MB's and LM's performances were about equal; and SS made the fewest diagnoses. Possible explanations for these differences have been discussed in earlier chapters, but regardless of the reasons for them, these differences have important implications for meeting the medical needs of the homeless alcoholic population. If, as was suggested above, hospital-based detoxification is largely inaccessible to this population and they rely on MB and non-medical facilities for both detoxification and medical care, then their chronic medical problems will go largely untreated. Whether these programs should make an effort to expand their medical services or the health care system should improve access to extant medical programs remains an open question. These results, in conjunction with those discussed below, suggest an alternative model which might be an improvement over the current system.

Rehabilitation efficacy issues. The literature on social setting detoxification suggests that these programs place greater emphasis on counseling and referrals for post-detoxification treatment than do traditional medical programs, and therefore, might be expected to make more appropriate referrals. A more specific policy in effect at SS was that if an appropriate referral could not be located, the client would be discharged without any referral. This led to the hypothesis that SS would make fewer referrals than MB or BI, but that a higher proportion

of referred SS subjects than of MB or BI subjects would implement their referrals. LM was not included in this hypothesis because, at the time of the proposal, it was not anticipated that there would be two non-medical facilities. Nevertheless, the same emphasis on referrals to treatment would be expected at LM as at SS, and therefore it was anticipated that LM clients would be more likely to implement their referrals than would clients at the two medical facilities. The data indicated that MB made more post-detoxification referrals than did the other three sites, and that there were no significant differences among those sites. The types of referrals varied substantially, however; MB and SS used outpatient treatment programs nearly exclusively. And while BI referred most clients to outpatient treatment and referred many to non-rehabilitative facilities, more than half of LM's clients were referred to residential treatment programs and most of the remainder to non-rehabilitative facilities.

The question of what type of referral is most "appropriate" remains open to interpretation. Clearly, as was discussed previously, there were different referral philosophies in effect at the study sites. One measure of appropriateness might be the proportion of subjects who implement a given type of referral. On this score, clients who received either inpatient treatment or non-rehabilitative referrals were far (seven times) more likely to complete the treatment than were those who received referrals for outpatient treatment. It follows, then, that more LM clients, who were most likely to receive inpatient or

rehabilitative referrals, completed treatment than clients of the other three facilities.

A more important question, however, is whether the detoxification facilities differed with regard to the proportion of their clients who remained sober. While it was not possible to obtain a direct measure of recovery rate in the current study, subsequent admissions for detoxification can be considered indicative of relapse. Given the differences among the programs on type of post-detoxification referral and the differences in completion rates for the various types of referrals, one would expect LM subjects to show lower rates of readmission. The data do not support this expectation; there were no significant differences among the four study sites in the proportions of clients readmitted for detoxification within four months after being in the research. Nor was there a site effect in the number of days that elapsed between being in the research and the first subsequent readmission. It is possible that this lack of impact is due to the very small proportion of clients who received inpatient referrals; just over five percent of the total treated subjects received inpatient referrals, and only two percent of the treated subjects completed inpatient treatment. Thus, the amount of post-detoxification treatment received by the research subjects was actually quite small, inhibiting chances for statistical differences.

Nevertheless, the readmissions findings are not supportive of any particular post-detoxification treatment. This negative

finding is actually consistent with a previous investigation of post-detoxification referrals (Smart et al., 1977), as well as recent reviews on the efficacy of treatment (e.g., Miller and Hester, 1985), and the detoxification sites should not be held accountable for the absence of a long-term treatment effect. This is particularly true given the chronic recidivist population under study. One could infer from recent investigations of the protracted alcohol abstinence syndrome (Kissin, 1981) and those reviews that have assessed outcomes for this population (e.g., Baekeland et al., 1975) that, without extended supportive care, recovery is unlikely for these alcoholics. Such care would minimally include provision of a stable living environment, as well as alcoholism treatment and other social services as needed.

Recommendations for the future. Taken together, the results on inaccessibility of medical treatment, safety of non-medical detoxification, and the lack of rehabilitation efficacy suggest a need for changes in the treatment delivery system. That is, it appears that the homeless alcoholic population in New York City utilizes the public detoxification facilities to fill a variety of their needs including detoxification, shelter, and medical care. There are more cost efficient and efficacious means of matching these various needs with necessary services, and the results of the current research suggest that it would be valuable to make the changes necessary to improve this match.

These improvements could be most easily implemented by modifying the intake screening process at existing non-medical

programs and supplementing the medical services at these facilities. As was the case with SS and LM, prospective clients at non-medical programs are generally screened for their ability to withstand detoxification without medication; those who have had recent heart attacks or a history of difficult withdrawal (e.g., seizures or hallucinations) are typically referred to a medical program, as are those who currently use barbiturates or other mood-altering drugs from which they would undergo withdrawal. The screening process now in effect in non-medical facilities, however, is at best inconsistent and at worst capricious. This medical and drug screening is often modified depending upon the program's familiarity with a client and the availability of bed space. In addition, most non-medical programs recognize the general lack of shelter and other social services for public inebriates and will sometimes admit clients who are not in need of detoxification, but are known to the facility. Similarly, as was discussed above, the MB program sometimes admits individuals because of a primary need for medical care that they cannot obtain elsewhere. The result of these practices is that scarce detoxification beds are sometimes filled inappropriately, and the attempts of non-medical programs to provide treatment services result in frustration and inefficient use of resources.

A more desirable screening system would involve (1) assessing need for detoxification, as indicated by alcometer readings, recent drinking behavior, and apparent withdrawal

symptomatology; (2) assessment of ability to undergo alcohol withdrawal without medication (a brief assessment involving a standardized severity scale, such as that developed by Gross (1973) could be completed by paramedical personnel); (3) assessment of need for medical treatment for other illnesses or conditions, identified by physical examination and diagnostic tests; (4) assessment of need for shelter, clothing, food or other social services.

This process would result in a range of referral options. Some applicants would be deemed "not in need of detoxification at this time," and not in need of other medical services. For these clients a shelter referral would be developed, preferably in a church-supported facility or mission. Those who were determined to be in need of detoxification and able to undergo non-medical withdrawal would go through the normal non-medical program intake procedures and be given a "non-medical" bed. A relatively small proportion of the applicants would be identified as needing medical detoxification. These individuals would be assigned to beds and would receive medication for withdrawal as prescribed by the attending physician. A final group of clients would be identified as needing medical treatment, but not needing detoxification. In most cases, these medical services would be provided on-site on an outpatient basis, e.g., the client who needs medication to control his hypertension or scabies, but does not currently need or want to detoxify. The site could also provide short-term inpatient medical care for the few cases identified by the screening as needing such care.

The resulting model would differ from the currently existing non-medical programs in the use of a more thorough and consistent screening procedure, and the provision of medical detoxification and medical care for ancillary conditions. The medical detoxification could be provided within the non-medical program or through an agreement with a medical facility which would accept those clients needing medication for withdrawal. The first alternative would build on an existing non-medical program and might have five medical detoxification beds, twenty-five non-medical beds and two beds for short-term inpatient medical care. In the second alternative, the medical beds would be held in a hospital or freestanding medical facility for the use of clients identified by the screening as needing medical treatment. Both alternatives recognize that relatively few alcoholics need medication to withdraw safely from alcohol, yet provide medication for those who do. Outpatient medical services would be delivered to alcoholics requiring treatment for chronic medical problems. Medical personnel and facilities would be used optimally in such a setting because the same staff could perform multiple services. These would include admissions assessment for individuals potentially needing medical detoxification and/or medical care, and outpatient medical services for alcoholics or detoxifying clients with chronic medical problems. Most "medical services" in medical detoxification facilities are provided by nurses, emergency medical technicians and physician's assistants. The proposed model would encourage use of these less expensive medical personnel, using M.D.'s on only a part-time basis.

Unfortunately, the results of this research had no straightforward implications for the post-detoxification referral process and subsequent alcoholism treatment for this population. The data would support the use of inpatient referrals over outpatient, although none of the treatment options available to the alcoholics in the present study seemed especially effective in the long run. This is perhaps not surprising, as the resources to match clients with treatment are sorely lacking with this population; in New York City existing detoxification programs appear to make referrals more on the basis of availability than on individual needs evaluations.

A comprehensive approach, presently proposed in New York State and already in use in other regions of the country, involves placing homeless, recidivist alcoholics in supportive living facilities. Most versions of this model include the provision of alcoholism education and counseling in addition to concrete services such as food and shelter, and clients are expected to remain in these facilities for a minimum of six months. Prior to their release, clients receive aid toward securing employment and assistance in obtaining permanent residences. Although it is currently unclear whether such a rehabilitation approach would have significantly more success with regard to long-term recovery than do existing programs, it would almost certain result in longer periods of sobriety. The range of needs identified in the present study sample, as well as the apparent ineffectiveness of their post-detoxification

treatment would tentatively support such a model. Additional research, of course, will be necessary to determine the efficacy and cost-effectiveness of this approach.

The difference between the current non-medical detoxification model used in New York State and that proposed here is that the model outlined here would include the provision of medical treatment and medical detoxification for those clients who need such care. The model would also emphasize developing more formal arrangements for alcoholics who are not in immediate need of detoxification, but have shelter or basic social service needs. An integrated service delivery system of this sort is certainly desirable given the research findings reported here. However, whether and how such a system can be made to operate is less clear. Alternative instruments and procedures for screening and classification need to be tested. Agents for providing various types of medical, social and treatment services need to be identified, and the conditions necessary for effectively integrating and managing their services need to be determined. The costs and benefits of such a system need to be explored. And the effects of such a system on the health, welfare, and sobriety of its clients need to be studied carefully.

In short, there are good reasons for modifying the delivery of services to homeless alcoholics and this study provides useful suggestions regarding the substance of such changes. It is to be hoped that public and private agencies will consider these findings as they develop their agenda for service improvements,

and that they will insure that the process of change is subjected to careful research. There is a great deal more to be learned about both the lives of homeless alcoholics and society's efforts to intervene in those lives.

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APPENDIX A

CONSENT INFORMATION

Consent protocol:

"As I said, I'm working on a project studying this, and two other detox programs in New York. Basically, we are trying to find out how people such as yourself are helped by each of these programs--so we're looking at the withdrawal problems they experience, whether they complete the treatment, and whether they undergo detox in the near future.

We're also collecting background information from everyone--such as how old you are, jobs you've held, marital status, drinking and medical history. As you know, most of this information you have already told to the counselors in these programs and is in their records. But I need your permission to look over that information. After you have been in the program for a few days, I would also like you to answer some additional questions about your experiences. Finally, I would also like you to agree that I can contact the agencies listed here, so that I can know whether you have any other alcohol treatment over the next four months.

We would also like you to agree to one other thing to help us learn more about these programs. In order for us to study all three programs, we are asking everyone in the study to agree to detox at whichever of them I select for you. It may be this program, in which case you will enter the program after I ask you a few questions. But it may also be one of the other two detox programs: the Bernstein program at Beth Israel or the 4th floor on Third St.[WSS]. We are making the choice of program for people by drawing lots. If it is the Bernstein program or the 4th floor [WSS], the rescue team will take you there.

While all 3 programs are the same length--5 days--you should know that at Bernstein and the 4th Floor they administer tranquilizing drugs during withdrawal, and at WSS they do not. It is also possible that you may not meet the entry requirements for the program to which you go, but then you may apply to any other facility, and your participation in the research won't affect your chances of being admitted.

If you do not want to take part in the study, you are, of course, free to enter detox here at WSS [4th Floor]. If you do choose to participate, the information we collect about you will be kept confidential and will be used for research purposes only. We will never identify you by name in any thing we write about this research and we will take your name off all the information forms we collect and maintain in locked cabinets at the Vera Institute. If you agree to participate, you may change your mind at a later date without having to leave the program you enter.

That's pretty much it, so let me summarize for you...if you agree to be part of the study, I will spend a few minutes asking you some questions and then you will be assigned to one of the three detox programs. If it is here, you will enter it as you normally would. Otherwise the rescue team will take you to Bernstein or the 4th Floor [WSS] where you will be screened according to the program's normal intake procedure. While in the program we will be looking at your files and then asking you some questions before you leave. Also, we will be collecting information from other detox programs after you leave, to see if, within four months after this detox is over, you re-enter any of them."

Consent form:

"Do you have any questions? [show him the consent form] If you are willing to be in the study I need you to sign this. It has in writing the same things I have just explained to you [encourage him to look it over if he is so inclined]. Remember that if you do sign, you can still change your mind at any point and drop out of the study."

CONSENT TO PARTICIPATE IN VERA INSTITUTE OF JUSTICE RESEARCH AND TO RELEASE DETOXIFICATION READMISSION DATA

A researcher from the Vera Institute of Justice, _____ , has informed me as follows:

1. Vera is studying the process of alcohol detoxification at three different types of facilities: a social setting detoxification program (the Westside Social Setting Alcohol Treatment Center), a free-standing medical detoxification center (the Manhattan Bowery Project) and a hospital-based detoxification center at Beth Israel Medical Center.

2. The purpose of the research is to understand the advantages of each type of facility with respect to completion rates, problems associated with withdrawal, acceptance of referrals for treatment and readmission for detoxification. I and other clients of these programs may benefit in the future from the research because it may provide a basis upon which to determine what treatment is most suitable for different types of people.

3. If I participate, I will be assigned to one of the facilities by lot. I have an equal chance of getting assigned to any one of them. Beth Israel and Manhattan Bowery administer tranquilizing drugs to help detox; Social Setting administers no drugs. The amount of medical attention I receive in these facilities may differ. The Social Setting and Manhattan Bowery programs are five days long; the Beth Israel program is six days long. Once admitted to the facility, I will receive the treatment the facility normally provides. I will be interviewed by a researcher at the start of the program and at its conclusion. The duration of my participation in the research is limited to the length of the detoxification program.

4. If I have any questions about the research or my rights as a research subject, the researcher at the facility to which I am assigned will answer them.

5. If I do not wish to participate in the research, I will still be able to enter the detox facility where I am now.

6. I may discontinue participation in the research at any time, without penalty. If I do discontinue participation, I will still be able to stay and complete treatment. Being part of the study does not ensure that I will get into the facility I am assigned to: I will have to go through the facility's normal procedures; and if the facility does not accept me for treatment, I can apply to any other facility for treatment. Participation in the research will not affect my likelihood of being admitted to other programs.

7. The research will gather information from the program records at the facility where I am assigned about my alcohol, medical and treatment histories; what happens during my treatment, and other information about me. It will also collect information about any treatment I may receive during the next four months at any of the alcohol treatment programs at the institutions listed on the attached sheet. I hereby authorize each of these institutions to disclose such information to the Vera researchers. I can withdraw this authorization at any time.

8. All information I give to the researchers or that the researchers collect about me from any source will be used for study purposes only and will be kept confidential. I will never be identified by name in research reports.

9. After considering the foregoing, I hereby consent to participate in the Vera research described above.

_____ Date signed

_____ Signature

As the Research Assistant on the Detox Project of the Vera Institute of Justice, I have informed _____ of the nature and purposes of the research project. He has been given a copy of this Consent Form and has signed it in my presence.

_____ Date signed

_____ Signature

Alcohol Treatment Programs

Bayley Seton Hospital, Detox Program - Staten Island
Bedford Stuyvesant Community Mental Health Center Sobering Up Station - Brooklyn
Bedford Stuyvesant Comprehensive Alcoholism Treatment Center - Brooklyn
Bellevue Hospital Alcoholism Program - Manhattan
Beth Israel Medical Center, Alcoholism Treatment Program - Manhattan
Booth Memorial Medical Center, Alcoholism Detoxification Unit - Queens
Bronx Citizens Committee Sobering Up Station - Bronx
Bronx Lebanon Hospital Center, Alcoholism Treatment Center - Bronx
Bronx Municipal Hospital Center, Alcoholism Treatment Center - Bronx
Bronx Veterans Hospital, Alcohol Research & Treatment Center - Bronx
Central Harlem Sobering Up Station - Manhattan
Elmhurst Hospital, Alcoholism Treatment Program - Queens
Freeport Hospital Alcoholism Program - Long Island
Harlem Hospital, Alcoholism Treatment Program - Manhattan
Hospital for Joint Diseases, Alcoholism Treatment Center - Manhattan
Jewish Hospital & Medical Center of Brooklyn, Alcoholism Clinic - Brooklyn
Kings County Hospital Center, Acute Alcohol Withdrawal Unit - Brooklyn
Long Island College Hospital, Division of Alcoholism Services - Brooklyn
Lower Manhattan Sobering Up Station - Manhattan
Manhattan Bowery Corporation, West Side Social Setting - Manhattan
Manhattan Bowery Project - Manhattan
Manhattan Veterans Administration Hospital, Drug & Alcohol Detox Unit - Manhattan
Medical Arts Center Hospital, Crossroads - Manhattan
Mid-Brooklyn Health Society Sobering Up Station - Brooklyn
Prospect Hospital, Alcohol Detoxification Unit - Bronx
Queens Hospital Center, Alcoholism Clinic - Queens
Regent Hospital - Manhattan
Roosevelt Hospital, Smithers Alcoholism Treatment Center - Manhattan
St. Barnabas Hospital, Alcoholism Program - Bronx
St. John's Episcopal Hospital, Alcoholism Program - Brooklyn
St. John's Episcopal Hospital, South Shore Division, Alcoholism Program - Queens
St. Luke's Hospital, Comprehensive Alcohol Treatment Program - Manhattan
St. Vincent's Hospital, Alcoholism Treatment Program - Manhattan
St. Vincent's Hospital, Alcoholism Services - Staten Island
Staten Island Hospital, Alcohol Detoxification Unit - Staten Island

CONSENT TO RELEASE DETOXIFICATION READMISSION DATA

Before beginning this detox, I agreed to participate in a study being conducted by the Vera Institute of Justice. At that time a Vera researcher informed me of the purpose and potential benefits of the research. I was also informed about the types of information that would be collected from and about me, how the information would be used and its confidentiality protected.

At that time I agreed that the research could collect information about me and my treatment. I now authorize the researchers to collect information about any treatment I may receive during the next four months at any of the alcohol treatment programs at the institutions listed on the reverse side. The information they will collect will include: the name(s) of facilities at which I detox and the dates of admission for such treatment. I hereby authorize each of these institutions to disclose such information to the Vera researchers. I can withdraw this authorization at any time.

All information I give to the researchers or that the researchers collect about me from any source will be used for study purposes only and will be kept confidential. I will never be identified by name in research reports.

_____ _____

Date signed Signature

_____

Name (PRINT)

As the Research Assistant on the Detox Project of the Vera Institute of Justice, I have informed _____ of the nature and purposes of the research project. He has been given a copy of this Consent Form and has signed it in my presence.

_____ _____

Date signed Signature

Alcohol Treatment Programs

Bayley Seton Hospital, Detox Program - Staten Island
Bedford Stuyvesant Community Mental Health Center Sobering Up Station - Brooklyn
Bedford Stuyvesant Comprehensive Alcoholism Treatment Center - Brooklyn
Bellevue Hospital Alcoholism Program - Manhattan
Beth Israel Medical Center, Alcoholism Treatment Program - Manhattan
Booth Memorial Medical Center, Alcoholism Detoxification Unit - Queens
Bronx Citizens Committee Sobering Up Station - Bronx
Bronx Lebanon Hospital Center, Alcoholism Treatment Center - Bronx
Bronx Municipal Hospital Center, Alcoholism Treatment Center - Bronx
Bronx Veterans Hospital, Alcohol Research & Treatment Center - Bronx
Central Harlem Sobering Up Station - Manhattan
Elmhurst Hospital, Alcoholism Treatment Program - Queens
Freeport Hospital Alcoholism Program - Long Island
Harlem Hospital, Alcoholism Treatment Program - Manhattan
Hospital for Joint Diseases, Alcoholism Treatment Center - Manhattan
Jewish Hospital & Medical Center of Brooklyn, Alcoholism Clinic - Brooklyn
Kings County Hospital Center, Acute Alcohol Withdrawal Unit - Brooklyn
Long Island College Hospital, Division of Alcoholism Services - Brooklyn
Lower Manhattan Sobering Up Station - Manhattan
Manhattan Bowery Corporation, West Side Social Setting - Manhattan
Manhattan Bowery Project - Manhattan
Manhattan Veterans Administration Hospital, Drug & Alcohol Detox Unit - Manhattan
Medical Arts Center Hospital, Crossroads - Manhattan
Mid-Brooklyn Health Society Sobering Up Station - Brooklyn
Prospect Hospital, Alcohol Detoxification Unit - Bronx
Queens Hospital Center, Alcoholism Clinic - Queens
Regent Hospital - Manhattan
Roosevelt Hospital, Smithers Alcoholism Treatment Center - Manhattan
St. Barnabas Hospital, Alcoholism Program - Bronx
St. John's Episcopal Hospital, Alcoholism Program - Brooklyn
St. John's Episcopal Hospital, South Shore Division, Alcoholism Program - Queens
St. Luke's Hospital, Comprehensive Alcohol Treatment Program - Manhattan
St. Vincent's Hospital, Alcoholism Treatment Program - Manhattan
St. Vincent's Hospital, Alcoholism Services - Staten Island
Staten Island Hospital, Alcohol Detoxification Unit - Staten Island

APPENDIX B:
NDATUS RESULTS

In contrast to the "local context" interviews, attempts to extend this context to the national level were necessarily limited. In-person interviews, follow-up phone calls, and cross-checking with other sites provided the opportunity to obtain standard program statistics, as well as a qualitative understanding of how local detoxification programs actually operate. Unfortunately, it was not possible to employ these methods of data collection on a national scope. As an alternative, it was decided to utilize a federal database, the National Drug and Alcoholism Treatment Utilization Survey (NDATUS), for basic quantitative information at a national level. Since 1979, NIAAA and the National Institute on Drug Abuse (NIDA) have conducted surveys of all units in the United States that provide alcoholism or drug treatment. NIAAA provided Vera with a tape of the most current survey (NDATUS, 1983), which included responses to a questionnaire sent out in 1982. An analysis of these data provides a basic picture of the national status of social setting and medical programs, and the various settings in which they are found.

A brief discussion of the terminology employed in the NDATUS instrument is necessary before attempting to interpret the results of the survey. Treatment units responding to NDATUS were asked to specify the number of patient beds they had, the "type of care" associated with these beds, and their "facility

location." Units that offered any of the three types of detoxification services were selected for analysis. The three detoxification models specified on the NDATUS instrument included medical, social setting and ambulatory medical detoxification, the latter being "less than 24-hour care" and the other two involving inpatient treatment. Services could be located in hospitals, outpatient facilities, or freestanding facilities (which included quarterway houses, halfway houses/recovery homes and other residential facilities). Combining the location and model information made it possible to specify the "detoxification modality" unique to each unit. The three detoxification models and the most common detox modalities, such as hospital/medical and freestanding/social setting, could then be assessed in terms of various program characteristics.

Bed capacity and utilization data were initially analyzed. Bed utilization was defined in the survey as the percentage of beds that were in use on September 30, 1982. More specific characteristics of each modality are also discussed below. These include the type of ownership (private, non-profit and public) and the principal population served by the program. The latter variable was divided into rural, suburban, inner city, and "other urban" populations. Inner city, according to NDATUS, was considered "the older and more densely populated area of a large city usually housing a low-income population," while other urban included "areas within the corporate limits of large cities other than the inner-city area" and cities with a population of 2,500

to 50,000. To simplify the syntax, the term "urban" is used below when referring to this "other urban" population. Regional programmatic differences were also assessed, as determined by the unit's designation as being in the Northeast, South, Midwest, or West.

Alcohol detoxification services were offered by a total of 1074 units responding to the 1982 survey. The majority of these services, 639 units or 60% of the total, conformed to an inpatient medical model. There were 356 (33%) units offering social setting detoxification, and 79 (7%) with ambulatory medical detoxification services. The medical programs were concentrated in hospital facilities, and this hospital/medical modality was the most numerous (a total of 543 units), accounting for just over half of all the units reporting some detoxification services. The freestanding/social setting programs were the next most common, with 319 (30%) treatment units. There were also 102 (9%) freestanding/medical programs and 62 (6%) outpatient/ambulatory detoxification units. The remaining units were atypical modalities, such as hospital/social setting (37 programs), hospital/ambulatory (12) and freestanding/ambulatory (7).

Social setting and medical programs were of comparable size, with the two models averaging about 15.5 beds per unit. In terms of bed utilization, the social setting programs had a slightly higher rate than the medical programs; on the given NDATUS date, 80.1% of the beds in social setting facilities were in use, as compared to 74.6% of the medical beds. When broken down into

specific modalities, freestanding/medical programs had the highest utlization rate, 91.9%, compared to an average rate of 82.1% for the freestanding/social setting programs, and a rate of 71% for the hospital/medical programs.

Table B-1 shows these figures on bed capacity and utilization, as well as type of ownership and principal population served, for the three different detoxification models. It can be seen that three-quarters of the social setting facilities and a little over half of the medical programs are owned by non-profit organizations. Ambulatory detoxification facilities, on the other hand, tend to be publicly owned (67%). Only 4% of the social setting programs are run for profit, as opposed to 16% of the medical programs and 11% of the ambulatory units.

TABLE B-1

Program Characteristics of the Three Models

Program characteristics	Detoxification Model		
	Medical (N=639)	Social Setting (N=356)	Ambulatory (N=79)
Mean bed capacity	15.6	15.5	26.6[a]
Bed utilization	74.6%	80.1%	64.4%[a]
Ownership			
Profit	104 (16%)	16 (4%)	9 (11%)
Non-profit	339 (53%)	266 (75%)	17 (22%)
Public	196 (31%)	74 (21%)	53 (67%)
Population served			
Inner city	90 (14%)	81 (23%)	10 (13%)
Urban	246 (38%)	121 (34%)	25 (32%)
Suburban	162 (25%)	48 (13%)	20 (25%)
Rural	141 (22%)	106 (30%)	24 (30%)

[a]While NDATUS provides these figures for ambulatory detoxification facilities, they "may not be as accurate as those reported for inpatient facilities...since outpatient facilities vary in their definition of actual clients in treatment" (NDATUS, 1983, p.24).

There are some differences between the three treatment models concerning the principal population served by each unit. About one-third of the social setting and ambulatory programs principally serve an urban population. This figure is slightly larger for the medical programs, 38% of which have an urban clientele. Inner-city populations are more likely to be served by social setting programs, while suburban populations are served by medical and ambulatory units, and rural areas served by social

setting and ambulatory programs. Table B-2 shows the same tabular presentation for the four most common modalities. These figures are quite similar to those associated with the more general models in Table B-1.

TABLE B-2

Program Characteristics of the Four Modalities

Program characteristics	Detoxification Modality: Hospital/ medical (N=543)	Freestanding/ social setting (N=319)	FS/ medical (N=102)	OP/ ambulatory (N=62)
Mean bed capacity	15.5	15.1	15.0	21.7
Bed utilization	71.0%	82.1%	91.9%	56.4%
Ownership				
Profit	97 (18%)	9 (3%)	7 (7%)	6 (10%)
Non-profit	262 (48%)	248 (78%)	81 (79%)	13 (21%)
Public	106 (34%)	62 (19%)	14 (14%)	43 (69%)
Population served				
Inner city	72 (13%)	76 (24%)	18 (18%)	4 (6%)
Urban	224 (41%)	104 (33%)	24 (24%)	20 (32%)
Suburban	141 (26%)	40 (13%)	22 (22%)	17 (27%)
Rural	106 (20%)	99 (31%)	38 (37%)	21 (34%)

A regional comparison of the different models and modalities is shown in Tables B-3 and B-4. The tables reveal striking differences between the West region and the other three, with the social setting model being predominant in the West, while accounting for only about a quarter of all programs in the rest of the country. In addition to being much less numerous, medical

TABLE B-3

Program Characteristics of the Three Models by Region

Region and Characteristics	Detoxification Model: Medical	Social Setting	Ambulatory
Northeast (N=195)	133 (68%)	55 (28%)	7 (4%)
Mean bed capacity	17.1	21.6	22
Utilization	75.6%	81.8%	84.0%
South (N=342)	210 (61%)	87 (25%)	47 (14%)
Mean bed capacity	15.3	10.9	23.1
Utilization	78.0%	81.2%	60.4%
Midwest (N=282)	201 (71%)	74 (26%)	11 (4%)
Mean bed capacity	17.2	16.7	30.5
Utilization	73.4%	77.3%	81.2%
West (N=255)	101 (40%)	140 (55%)	14 (5%)
Mean bed capacity	10.9	15.2	39.4
Utilization	68.4%	81.8%	65.3%

programs in the West tend to be smaller and underutilized. In general, the Northeast and Midwest regions show a similar pattern, reflecting the continued dominance of the more traditional medical model in these areas. Programs in these two regions -- and especially those in the Northeast -- also appear consistently larger than programs in the South and West. The tables also indicate that the ambulatory model, while representing a very small portion of all detoxification services nationally, is proportionally more than three times as common in the South as in the rest of the country.

Table B-4

Program Characteristics of the Four Modalities by Region

Region and characteristics	Detoxification Modality: Hospital/ medical	FS/ medical	FS/ SS	OP/ ambulatory
Northeast (N=195)	118 (61%)	15 (8%)	47 (24%)	6 (3%)
Mean bed capacity	17.3	15.1	22.0	20.2
Utilization	75.2%	80.0%	84.0%	68.6%
South (N=342)	168 (49%)	42 (12%)	77 (23%)	39 (11%)
Mean bed capacity	15.5	13.7	10.4	18.1
Utilization	68.7%	112.1%	81.7%	58.8%
Midwest (N=282)	164 (58%)	37 (13%)	66 (23%)	7 (2%)
Mean bed capacity	17.2	15.8	16.8	44.9
Utilization	71.5%	80.1%	80.2%	86.8%
West (N=255)	93 (36%)	8 (3%)	129 (51%)	10 (4%)
Mean bed capacity	10.3	17.8	14.4	20.6
Utilization	68.8%	64.8%	82.5%	22.9%