# Characteristics of In-patient versus Out-patient Drop-outs in Addiction Treatment

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## Abstract

The relative merits of in-patient and out-patient treatment of substance abuse have been widely debated. For severe, chronic clients, the best form of treatment may be intensive in-patient care. Less severe clients may fare better with out-patient treatment.

Regardless of the type of treatment, clients' drop-out rates are high. Since the client may be three times as likely to be free from drugs one year later if they complete treatment, serious attempts need to made to determine the factors affecting client drop-out.

The research examined this issue by means of an archival search of client records from the Lakehead Addiction Centre treatment program at the Lakehead Psychiatric Hospital (LPH) in Thunder Bay, Ontario. The demographic, personality, and social stability characteristics related to drop-out of clients who had attended either the in-patient or out-patient program were examined. Treatment drop-outs were studied for 98 out-patients and 406 in-patients.

This study confirms research which found a high rate of early attrition from treatment for substance-abusing clients. The results indicate that treatment completers in either program differed significantly from non-completers by: patient type ($P<0.05$), use of LSD ($P<0.01$), and treatment mandated ($P<0.05$). Out-patients had significantly more completers. This may be due to the significant differences between in-patient and out-patient

attenders. These differences included: social support ($P<0.01$), attendance at AA/NA ($P<0.01$), and maximum drug intake per day or binge ($P<0.05$). Natives were found to be significantly more likely to drop-out of either treatment ($P<0.01$).

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## INTRODUCTION

Historically there has been great debate concerning the benefits of in-patient versus out-patient treatment for alcohol and substance abuse. In 1992, the Lakehead Psychiatric Hospital (LPH), located in the north-western Ontario city of Thunder Bay, modified its addiction treatment center from an in-patient to an out-patient treatment facility. When the out-patient program had run for a year it became possible to assess its effectiveness of treatment using the previous in-patient clients as a comparison group.

Many clients discontinue treatment, leaving Against Medical Advice (AMA) or with Unauthorized Leave Of Absence (ULOA) and reduce the potential benefits achievable from completing treatment. This is a common occurrence; for example, Baekeland & Lundwall (1975) reported that 52 - 75 % of all alcoholism out-patients drop-out before the fourth session. Given that abstinence is related to treatment completion (Carver & Dunham, 1991) discontinuation clearly limits the ultimate goal of reducing abuse. In addition, individuals who complete any kind of formal treatment have better outcomes than those who do not undergo treatment or who leave treatment prematurely (Miller & Hester, 1986).

It is difficult for the clinician to determine if the problem of treatment discontinuation exists because of client

characteristics, the treatment approach, or both. Since the purpose of any treatment is to assist the client, it is appropriate to determine each of these possibilities and the fit of one to another. Too often programs lack the flexibility and resources necessary to suit the needs of the client as an individual. Trying to fit 'square' clients into 'round' treatment programs rarely works (Nirenberg & Maisto, 1990). When a client leaves AMA, then it is usually inferred that they did not 'fit'. The alternatives are to adapt the program to the client, or to select clients who will benefit best from the existing form of treatment.

## In-patient Treatment at LPH

In-patient treatment at the LPH involved around-the-clock supervision and care. Clients resided at the Lakehead Addiction Centre (LAC), and attended group and individual counselling during the day. Some Alcoholics Anonymous (AA) and Narcotics Anonymous (NA) meetings were held in-house, during the evenings. As well, family members were encouraged to visit and clients could sign-out for short periods of time. There was an evening curfew with regular bed checks. Staff were available to administer medication and to give counselling throughout the night. Weekend recreational events and additional counselling were scheduled or made available.

In-patient treatment was an intensive approach in which the clients could address their substance abuse issues while having physiological needs met. Hospital support was available 24 hours

per day, seven days a week.

## Out-patient treatment at LPH

Care was provided through an out-patient program. This treatment was similar in many ways to the in-patient program. Day care consisted of the same lectures, presentations and group counselling sessions. The fundamental difference was that clients were encouraged to leave the hospital setting in the evenings and on weekends, to stay with family, friends or at temporary residences. Accordingly, out-patient care lacked the 24 hour intensity of the in-patient treatment. Thus, there was less one-on-one contact with staff, less evening supervision, greater client personal responsibility such as bed time, waking up, and the taking of medication. As well, the out-patient program did not offer weekend support whereas in-patient treatment did.

## Efficacy of Treatment - In-patient versus Out-patient

Extensive research has evaluated whether clients with alcohol dependence or alcohol abuse problems gain more benefit from an out-patient or in-patient treatment facility. The majority of comparisons of in-patient and out-patient care involving randomly assigned clients have failed to find significant differences in outcome. The real issue concerns the interpretation of these findings. Some researchers (Peele, 1990) interpret these "no difference" findings as in-patient and out-patient treatment being *equally effective*, and because out-patient treatment is less

costly, it should be used more. Wallace (1990) finds these interpretations "unjustified" since the studies they are based on have involved poor prognosis clients. He instead describes in- and out-patient treatment to be equally ineffective for these clients. Most studies have involved *poor prognosis* clients for whom *stable* recovery is unlikely regardless of what treatment they have received. Nevertheless, an extensive literature review by Miller and Hester (1986) concluded that

> more severe and less socially stable alcoholics seem to fare better in in-patient (or more intensive) treatment, whereas among less severe and more socially stable (married, employed) alcoholics, outpatient (and less intensive) treatment yields more favourable outcomes than in-patient treatment. (p.801).

Shaw, G.K., Waller, S., McDougall, S., MacGarvie, J., and Dunn, G. (1990), also argued that in-patient treatment is best for highly chemically dependent clients while out-patient treatment may work best for those with less severe dependency. Essentially, intense treatment is matched to clients with severe or chronic dependence and less intense treatment is matched to clients with less severe dependency (Eliany & Rush, 1992).

Out-patient treatment can serve as a transition stage between in-patient treatment and return to the home community. It may be well suited for clients in the early stages of chemical dependency. The program may be more flexible and individualized as it allows clients to return to their families and homes each evening and weekends.

Therefore, it does not seem fruitful to continue to pose questions about the relative merits of in-patient versus

out-patient treatment. The considerable heterogeneity among alcoholic persons suggests that a person with one set of personal and situational characteristics may respond best to one type of treatment or setting, another best to an alternative intervention (Eliany & Rush, 1992).

Miller & Hester (1986) provide the most comprehensive review of research in the alcohol field. They attempted to identify patient characteristics that are consistently associated with outcome within a variety of treatment programs. They conclude that no one client characteristic emerges from the literature as predictive of positive outcome *regardless of the type of treatment received*. They go on to review a wide range of studies seeking client characteristics that predict successful outcome *within* specific treatment modalities (i.e., clients with fewer years of problem drinking, and less prior history of alcohol treatment were more successful (abstinence) when placed in less intensive treatment).

The other major group of studies examined the usefulness of different client characteristics in predicting outcome *across* different treatment approaches (Miller & Hester, 1986). The strongest evidence comes from research randomly assigning clients to different treatment programs, but other quasi-experimental designs are also valuable. A study in Eliany & Rush (1992) exemplifies a non-experimental approach providing valuable data. In this study, after clients were randomly assigned to in-patient

and out-patient alternatives, they were considered "matched" or "mismatched" on the basis of post-hoc matching criteria. Matched clients had better outcomes than mismatched clients. For example, clients with a history of severe drug dependance did better in in-patient programs and clients with less severe drug dependence did better in out-patient programs.

## Treatment Completion

Treatment outcome regardless of modality is clearly related to continuation (Baekeland & Lundwall, 1975; Welte et al., 1981). Welte et al. (1981) found that those clients who were terminated or withdrew against advice have much higher drinking rates at follow-up than those who completed treatment. The rate of clients drinking again was 17% lower for treatment completers than those who did not complete.

A study by Alford et al. (1991) found that after 6 months, 71% of male treatment completers and 79% of female treatment completers were found to be abstinent or essentially abstinent (1 - 2 slips totalling less than 7 days and not using at time of interview) while 37% of male treatment non-completers and 30% of female non-completers were also abstinent or essentially abstinent. After one year of treatment, 48% of male treatment completers and 70% of female treatment completers were found to be abstinent (1 - 3 slips totalling no more than 14 days and not using at time of interview) while 44% of male treatment non-completers and 28% of female

treatment non-completers were also abstinent. The only characteristic that they found differentiated completers and non-completers was attendance at NA and AA meetings. The relationship does not appear to be that AA and NA meetings improve abstinence rates, but do imply that those who do abstain are interested in attending a self-help group. Two years after treatment, 40% of male treatment completers and 61% of female treatment completers were abstinent or essentially abstinent (measured same as one year after treatment). Thirty-seven percent of male non-completers and 27% of female non-completers were abstinent. Thus, as time passed, the difference in abstinence between the two groups became negligible. As well, there were no characteristics which differentiated completers from non-completers.

A criticism of Alford et al.'s study is their failure to differentiate between socially stable and unstable clients. Results for socially stable patients can be expected to be far superior to those for socially unstable clients. Treatment of socially unstable, chronic, and seriously impaired alcoholic clients does not usually progress beyond a brief period of abstinence (Rychtarik et al., 1987; Helzer et al., 1985). It would be quite surprising if socially unstable, chronic, and seriously impaired alcoholic clients changed significantly as a result of a single attempt at treatment; whether the treatment was out-patient or in-patient. For some chronic alcoholic clients in-patient treatment is not enough.

## Treatment Drop-outs

Since the drop-out phenomenon is important in relation to outcome there has been much effort put into determining its causes. A model devised by Beckman and Kocel (1982) emphasizes individual characteristics that may affect the person's decision to remain in treatment and to continue to use treatment services. The characteristics include: individual predisposing factors such as age, ethnicity, or socioeconomic status; attitudes and beliefs about alcohol, treatment and health; personal enabling traits, that is, personality traits (i.e., self-esteem, social isolation); drinking and treatment history; and social enabling characteristics, that is, current social and situational variables (ie., child-care responsibilities, social support systems, insurance coverage). Table 1. gives an overview of client characteristics and their ability to predict treatment completion. The other major class of characteristics affecting continuation in treatment is the structural features of the treatment services themselves. These include types of treatment services, types of support services, demographic composition of the treatment staff, outreach and referral practices, and attitudes of the treatment providers.

O'Brien et al. (1989) found no differences in drop-out when clients were randomly assigned to out-patient and in-patient treatment. Nevertheless, if there are client characteristics that effect drop-out rates, the use of random assignment could reveal

the fact that some clients in out-patient treatment would be better suited to in-patient treatment and some better in out-patient centres. Without matching client characteristics to treatment approach one would expect there to be no difference between in-patient and out-patient treatment.

## Failure to Predict

There is a significant body of literature with discouraging results in predicting treatment outcomes. Generally, studies have either failed to predict or replicate (Craig, 1984; Hanson et al., 1990; Stark & Campbell, 1988). The studies are plagued with such problems as small sample sizes, lack of demographic information, and failure to attempt cross validation (Pekarik, 1985).

### Demographics

Examination of the influence of demographics such as sex, age, employment, marital status, education, psychopathology, race and nature of the referral for treatment yield inconsistent findings (Gossop, 1978; Hahh & King, 1982; Leigh et al., 1984; Linn, 1978; Steer, 1983a; Steer, 1983b; Wilson & Whelan, 1983; Stark & Campbell, 1988; Hanson et al., 1990).

#### Sex.

Brewer et al. (1990) concluded that chemically dependent females tended to finish treatment. Yet, a review by Baekeland & Lundwall (1975) found drop-out highest for females. On the other

hand, Stark & Campbell (1988) and Hanson et. al (1990) found that there were no significant sex differences.

Age.

Stark & Campbell (1988) and Hanson et. al (1990) found there were no significant differences in age between treatment completers and treatment drop-outs. Likewise, Pekarik, Jones & Blodgett (1986) found similar age means for completers and drop-outs. Fisher-Nelson (1987) also reported that age did not predict remaining in treatment.

Employment.

According to Brewer et al. (1990) those more likely to complete treatment were employed. Baekeland & Lundwall (1975) found drop-out highest among those who were unemployed or full-time house wives. Noel et al. (1986) found unemployed, part-time or disabled workers and full-time housewives were more likely to drop out than those employed full time outside the home. In contrast, Stark & Campbell (1988) reported no significant differences on employment.

Marital Status.

Research by Baekeland & Lundwall (1975) found that drop-outs were usually divorced or single, and married clients had the lowest drop-out rate. Hanson et al. (1990) and Stark & Campbell (1988) reported no differences in marital status.

Education.

Stark & Campbell (1988) reported there were no significant differences in education. The findings of Hanson et al. (1990) concur that differences in education do not predict treatment drop-out.

Ethnicity.

Hanson et al. (1990) and Stark & Campbell (1988) reported there were no significant differences in race. Knowing ethnic origin, treatment drop-out could not be predicted.

## Referral Source

A study by Noel et al. (1987) indicated that referral source is associated with attrition. Problem drinkers who made their own initial contact with the program were much more likely to remain in treatment than those for whom someone else called. On the other hand, Stark & Campbell (1988) found that drop-outs were less likely to be court mandated.

## Mental Health and Symptom Patterns

Assessments of personality, symptom patterns, and symptom severity have also produced mixed results. Drop-out from drug treatment has been associated with high levels of anxiety, depression, impulsivity (Baekland & Lundwall, 1975; Robinson & Little, 1982), and general severity of psychological symptoms (Keegan & Lachar, 1979; O'Leary et al., 1979; Robinson & Little,

1982; Steer, 1983a; Steer, 1983b). Other studies using similar methods of assessing psychopathology and symptom severity have found no relationship between these variables and drop-out (Craig, 1984a; Craig, 1984b; Leigh, Ogborne & Cleland, 1984; McWilliams & Brown, 1977; Pekarik, Jones & Blodgett, 1986; Wilson & Whelan, 1983). The severity of psychopathology, as measured by the Millon Clinical Multiaxial Inventory (MCMI), was not useful in predicting attrition (Stark & Campbell, 1988).

Other Variables

Those who tended to finish treatment, according to Brewer et al. (1990), were not suffering acute withdrawal, and were willing to commit themselves to an appropriate number of self-help meetings following treatment. A review by Baekeland & Lundwall (1975) found social stability associated with drop-out. Drop-out was highest for those individuals who had less social stability in terms of having a place to live.

Stark & Campbell (1988) reported there were no significant differences in drug use variables (age of first use, primary drug, secondary drug, method of use, and frequency per week).

Hanson et al. (1990) found that income source, admission diagnoses, and past treatment history did not predict treatment drop-out. In line with these findings, physical health was not significantly related to completion of treatment.

Treatment Matching

The answer to the problem of lack of replication among studies can be discovered by the examination of treatment matching (how clients are matched to treatment). Treatment matching involves placing clients with certain characteristics into programs whose approaches have been shown effective for individuals with those characteristics. Clients will respond differentially to different types of treatment and treatment goals. The first step is to be able to accurately determine which clients have the best possibility of benefiting from a particular treatment regiment. In other words, the ability to differentiate between drop-outs and treatment completers must be developed as an initial step in the formation of a treatment matching process. Thus, the failure in the past to show significant benefits of different treatment programs over the natural history of alcohol or other drug problems may be explained, at least in part, by the failure of treatment programs to individually match clients to a treatment plan (Glaser, 1980; Miller & Hester, 1986).

When summing up the literature on treatment effectiveness, the most recent reviews have concluded with a qualified "yes" to the question of whether treatment "works." The question, however, is now typically expanded to ask "which kinds of individuals, with what kinds of problems, are likely to respond to what kinds of treatments, by achieving what kinds of goals, when delivered by which kinds of practitioners" (Eliany & Rush, 1992).

With the extreme heterogeneity of treatment populations, the

differing effects of treatment types seem to negate the probability of finding one set of outcome predictors for all situations. Such findings limit the usefulness of demographic or substance use variables in globally predicting which clients should do well in any treatment program. Matching client populations with programs is the most likely answer to the problem of drop-outs.

## Variables Related to Treatment Drop-out

There is clear contradiction in the research. While some studies do not provide support for differences between completers and drop-outs, other studies do find significant differences.

### Predisposing factors

Low socioeconomic status and social instability appear related to treatment drop-out (Baekeland & Lundwall, 1975; Welte et al., 1981). Unlike the findings of Stark & Campbell (1988) and Hanson et. al (1990), Patton (1978) as cited by Beckman & Bardsley (1986) found completers of treatment to be somewhat better educated than drop-outs. Drop-outs also have been shown to be younger than non-drop-outs (Baekeland & Lundwall, 1975; Welte et al., 1981).

### Personal Enabling Factors

These variables include: social stability, social adjustment, depression, number of years drinking after loss of control, and acute withdrawal. Welte et al.(1981) defined social stability as:

number of jobs in the last 3 years; number of address changes in the last 3 years; residence type (house, apartment, hotel, etc.); employment status; marital status; and family composition. Social stability was the best predictor of drop-outs versus treatment completers. Social adjustment was a scale constructed from the respondent's answers to two questions. One of these asks the respondent to rate how well (very well, satisfactorily, poorly) they are getting along with the most important person in their life. The second asks for the same rating on the persons with whom the respondent is living. Better adjusted clients had a lower chance of dropping out. Clients who dropped out also scored significantly higher on Scale 2 (Depression) of the MMPI (Craig, 1984). Drop-outs have been found to have significantly fewer years of drinking after loss of control (Hahn & King, 1982). Not suffering from acute withdrawal is characteristic of treatment completers (Brewer et al., 1990). Other variables include AA attendance which Alford et al. (1991) found differentiated completers from non-completers. At two years after discharge, 84% of increased frequency (5 or more meetings per month) AA/NA attenders were abstinent or essentially abstinent. Of those who did not attend AA or NA, 31% were found to be abstinent-essentially abstinent.

## Treatment History Factors

These variables include whether the respondent has received previous treatment for alcoholism. Beckman & Bardsley (1986) found

that for males greater amounts of previous treatment was positively related to higher drop-out.

Sex Differences

Female alcoholics are higher in passivity, aggression, depression and conflict than men (Conte et al., 1991). As well, women believe they are less socially desirable than men. According to Gorenstein (1980) and Richman et al. (1980) the differences between male and female drinkers are so great that conclusions drawn from mixed samples are inappropriate. Few studies separate male from female attenders in their analysis of characteristics.

For women (Beckman & Bardsley, 1986), income showed a significant association with drop-out. Those with higher incomes were more likely to complete treatment. No other predisposing factors were associated with treatment completion for women alcoholics.

For men, marital status (i.e., married vs other, and separated or divorced vs other), employment status; occupational prestige; income; and number of children were associated with treatment completion. Those men who were married, employed, had higher incomes and occupational prestige and a larger number of children were more likely to complete treatment. For men, income, marital status and number of children did enter the logistic regression equation together accounting for about 6% of the additional variance not explained by length of treatment program.

For women attendance at AA and dependence symptoms had

significant associations with treatment completion (Beckman & Bardsley, 1986). Those who had more severe alcohol abuse as indicated by greater evidence of dependence, and more prior AA attendance, not surprisingly, were more likely to drop out of treatment.

The variables showing significant univariate relationships for males were presence of previous treatment, amount of previous treatment, presence of AA attendance, amount of previous treatment including attendance at AA, quantity consumed, dependence symptoms, and pathological drinking symptoms. The significant personality variables were: depression, self-esteem, and personal efficacy regarding drinking. Male drop-outs evidenced more previous treatment, were more depressed, and had lower self-esteem and self-efficacy concerning alcohol usage than did treatment completers.

Men who believe they cannot control their drinking drop out of treatment and may go back to drinking but for women low on personal efficacy some other mechanism appears to apply. Similarly, low self-esteem influences drop-out for men. Although previous studies (e.g., Beckman, 1978) have shown women have lower self-esteem than men, Beckman & Bardsley (1986) did not find gender differences. Predisposing factors related to drop-out also differ between men and women. Variables indicative of social stability (such as employment status, marriage, and occupational prestige) were associated with treatment completion only among men.

Nespor (1990) wrote that women are more likely than men to be

divorced when they enter treatment or be married to, or living with, an alcoholic 'significant other'. They are more likely to date the onset of pathological drinking to a particularly stressful event. Alcoholic women are more likely to abuse tranquilizers, sedatives and amphetamines, in addition to their alcoholism. They are also likely to have greater anxiety and depression as well as have lower self-esteem than men. With a difference existing between alcoholic men and women, differences in drop-out may also be evident. Therefore, it becomes necessary to assess the effect sex has on drop-out rates in out-patient and in-patient treatment.

Improved physical health and appearance helps to improve women's self-esteem and self-confidence more than for men (Nespor, 1990). Considering the difference between alcohol-dependent women and men, Nespor recommends that programs for female patients emphasize psychotherapy, family therapy and relaxation training. In contrast, the program for men should concentrate on education, lifestyle changes, and changes in the social network. Since some of the programs have been all female, all male and mixed, this factor may also affect drop-out.

## Problem Severity and Social Stability

The most commonly studied predictor variables in alcoholism treatment have been measures of problem severity and social stability. Stinson et al. (1979) as cited in Miller & Hester (1986) found no overall differences in outcome from programs differing in staff density. They did note, however, that clients

who had stable marriages, fewer years of problem drinking, and less prior history of alcoholism treatment had lower drop-out rates when placed in less intensive treatment. Socially unstable clients, by contrast, showed more favourable outcomes following in-patient rehabilitation. Clients assigned to in-patient treatment, however, had been allowed to opt out to out-patient treatment instead, leaving a select sample in residential rehabilitation. Owen & Kohutek (1981) found high percentages of drop-outs were self-referred and presented problems related to marriage and family.

Baekelend et al. (1973) found that clients of an alcohol clinic who failed to return after the first visit were more likely to live alone while clinic attenders were described as socially intact individuals. One interpretation of these findings is that drop-outs have a less cohesive support network to encourage them to remain in treatment. Baekeland & Lundwall (1975), in their literature review, found that family pathology, attitudes, and behavior were important in predicting dropping-out of treatment in eight out of ten studies.

Family Influence

Some researchers have found a significant positive relationship between family pressure to remain in treatment and length of stay (Weidman, 1987; Eldred & Washington, 1976; Gossop, 1978). The family may exert powerful forces on its members to remain in or drop-out of treatment. On the other hand, if the family needs a deviant member to maintain homeostasis and deflect

tension, and if this need is not handled appropriately, the family may sabotage treatment and act to regain its regulator of homeostasis. Family factors play a crucial role in the etiology and maintenance of substance abuse (Stanton et al., 1982). Like much of the other research there are also contradictory findings. Ward & Hamsley (1981) found that social pressure on the drug abuser by family members to seek treatment was significantly and inversely related to length of stay.

Social isolation and being single have been predictive of treatment drop-out (Baekeland et al., 1973). One interpretation is that drop-outs lack social support to encourage their attendance at treatment.

Client Circumstances

One conclusion drawn by Brewer et al. (1990) is the need to evaluate the effect of client circumstances (i.e., facing a prison sentence) on drop-out rate. Few previous studies have given the number of clients who dropped out of treatment because of being jailed for a prior offense. Clients compelled to leave treatment (i.e., arrest) should be counted separately from voluntary drop-outs. Another issue is the distraction legal proceedings cause for clients. When faced with an imminent trial date or sentencing, clients have an understandably difficult time working on therapy.

Ethnicity

Of Brewer et al.'s (1990) sample, 98% or 780 of 797 were White. Sixty-five percent of the Blacks and other minorities completed treatment versus 83% completion for Whites. No statistical significance was found between the two groups, most likely due to the small *n* of minorities attending treatment.

An American study cited in Kivlahan et al., (1985) evaluating recidivism in the Seattle area for 1975 found that American Indians accounted for 16% of the total clientele but 40% of the recidivists. Another study cited in Kivlahan et al., (1985) found that American Indians composed 4% of the clients in alcohol treatment, but accounted for 24% of the detoxification admissions.

Age

Owen & Kohutek (1981) found that for 258 rural adult out-patients significant differences were found only on the age factor. Greater than expected drop-out rates existed in the 18 to 24 year age group while the rate was lower than expected in the 65 and over age group. High percentages of drop-outs were self-referred and presented problems related to marriage and family.

Other Factors in Drop-out

Craig (1985) conducted a study with results showing that a greater number of clients complete treatment when the primary therapist is absent, when more patients were admitted to the hospital during their stay, and when methadone was prescribed. The

results seem to imply

> make me physically comfortable (i.e., give me methadone), don't hassle me with my problems (staff absent) but give me some attention (don't admit too many patients during my stay), and I will stay. Make me uncomfortable, physically or emotionally, or provide me with insufficient attention, and I will leave. (p.215)

Peer support appears to be a significant positive influence in treatment completion.

## Self-reports

The client evaluations were based on self-report and hospital staff evaluations. Research reviewed by Midanik (1988) suggests that self-report is supported by reports from secondary sources, especially when the amount of alcohol is not the specific focus of attention. Typically alcoholics do not under-report. Discrepancies in data have usually been the result of under reporting in official records (Midanik, 1988).

## Hypotheses

The aim of this research was to identify the demographic and personality characteristics of clients who have successfully or unsuccessfully completed in-patient or out-patient treatment at the LPH.

It was assumed that clients seeking treatment at the Lakehead Psychiatric Hospital were variable but many are highly chemically dependent. If highly chemical dependent clients are being treated at the LPH, and if they are best treated in an in-patient program, then they would not fare as well in an out-patient program.

Therefore, using drop-out rates as the measure of successful treatment outcome, one would expect highly chemical dependent clients to have a higher drop-out rate in an out-patient treatment program.

Consequently, Hypothesis One is that there will be a higher drop-out rate for the out-patient program than there was for the in-patient program. It is expected that the decrease in supervision, program intensity and the potential negative effects of returning to a non-functional social environment and relationships, will result in increased out-patient drop-out. The finding that highly chemical dependent clients have a similar or lower drop-out rate than less chemical dependent clients would suggest the lack of an interaction effect between the type of treatment and the severity of chemical dependence.

Hypothesis Two is that clients who drop-out will have different personal and demographic characteristics than treatment completers.

Hypothesis Three is that clients who drop-out of the out-patient program will have different personal and demographic characteristics than drop-outs of the in-patient program.

Hypothesis Four is that women drop-outs, will have different characteristics than men who drop-out.

Hypothesis Five is that Native clients will have a higher drop-out rate from both treatments than non-natives.

# METHOD

## Procedure

The research was based on an analysis of archival records of previous clients. Archival records for the period July 2, 1989, to July 1, 1991, contain the data for the in-patient group. The archival records for the period July 2, 1991, to July 1, 1992, include the out-patient group. The program changed from in-patient treatment to out-patient treatment on July 2, 1991.

It was estimated that each treatment program would have at least a 30% drop-out rate. Therefore, with an average of 15 clients in a single treatment session, with 10 sessions per year, 150 clients would have enroled in the out-patient treatment during its first year of operation. Of these 150 clients, 45 were expected to have dropped out. For the in-patient program, 45 of 150 clients were also expected to have dropped out. However, the in-patient program operated for many years and a great number of client records were available. All records from the period July, 1989, to July, 1991, were analyzed. This was expected to give an *n* of 90 drop-outs.

Medical records clerks in the Medical Records department of the LPH collected all of the client files created in the LAC during the period July 2, 1989, to July 1, 1992. The Medical Records department was able to identify whether the client had been in-patient or out-patient. The author then read each file and coded the data.

## Subjects

A total of 504 client records were reviewed, 406 in-patients and 98 out-patients. Significantly more in-patients were included as the in-patient program had run for several years, whereas records for out-patients were available for a single year.

## Measures

Information from the 4C ADMISSION INFORMATION form (Appendix A) provided the following data: marital status, dates admitted and discharged, date of birth (used to determine age at treatment), sex, referral source, employment, number of years drinking/drug use, date of last drink and how much, date of last drug use and how much, any previous treatment, blackouts, DT's, seizures, court charges, (court charges) pending, probation, physical problems or conditions, diagnoses, and discharge status (complete, against medical advice (AMA), and in-complete). In-complete included medical discharge or being asked to leave.

The Ministry of Health ADMISSION/REGISTRATION DATA form (Appendix B) provided: citizenship (which had the categories: Native Canadian - Treaty, Native Canadian - Non Treaty, Canadian Other Than Native, Landed Immigrant, Other, and Unknown), marital status (single, married, widowed, divorced, separated, common law, or unknown), education, employment status, financial support (no income, welfare, family benefits, spouse/parents support, pension, savings/inheritance, employment, other, or unknown), living with whom (alone, spouse, parents, friends, other relatives, other -

specify, or unknown), type of housing (private housing or apartment, private room, private boarding house, domiciliary hostel, approved home, correctional institute, no fixed abode (NFA), parole facilities, other - include other hospital, COMSOC facility, hostel, or home for the aged), referral source (self, family, community agency institutional specify, or other specify), and legal status at admission (voluntary, informal, or involuntary - specify).

A comprehensive social history was also a part of most records. These histories were completed by the client's primary therapist. Derived from this record were: history of attendance at AA or NA, survival of physical or sexual abuse, attempted or planned suicide, number of children, and family history of psychoactive substance disorders.

The types of substances used was categorized by type of substance, i.e., alcohol, marijuana, Tylenol, naphtha; and class of substance i.e., solvents, over the counter medication, prescriptions, and hard drugs. Hard drugs included: cocaine, heroin, LSD (acid), speed, and opium.

As the LPH recommends that a client's legal matters be dealt with before admission, few clients had charges pending.

When the client was asked to leave treatment, the clinical notes usually contained an explanation of why. One of the following was frequently cited as the reason why a client was asked to leave: inappropriate sexual involvement with another client, using a psychoactive substance while in treatment, violence, or not

following program rules and policies such as attendance at group or individual sessions.

## Data Analysis

The data was analyzed in relation to the following questions:

1. Do completers and drop-outs differ for the entire sample?
2. Do in-patient drop-outs differ from out-patient drop-outs?
3. Do completers and drop-outs differ if they were in-patients compared with out-patients?
4. Do completers and drop-outs differ if they were in-patients?
5. Do completers and drop-outs differ if they were out-patients?
6. What is the relationship between type of program, drop-out, and factors such as sex, age, race, type and duration of substance abuse?

The results are reported on the entire sample and then broken down into six categories: 1. treatment completers and treatment dropouts for the entire sample; 2. in-patient versus out-patient measures; 3. in-patient completers compared with in-patient dropouts; 4. out-patient completers compared with out-patient dropouts; 5. out-patient dropouts compared with in-patient dropouts; 6. Native compared with non-native patients. Sample sizes vary among measures because of missing data.

Differences between drop-outs and completers on categorical independent variables were tested using chi-square (Pearson Correlation). Where the expected value was less than five the Fischer-Exact test was used. Continuous independent variables were analyzed with between group *t*-tests. All tests were two-tailed. Stepwise logistic regression analysis was used to examine which variables in the set best discriminated between groups.

Logistic regression is appropriate for the analysis of dichotomous dependent variables such as treatment completion and involves linear regression of the logarithm of the odds ratio on the independent or explanatory variables. In the stepwise procedure used, the improvement chi-square ($X^2$) tests whether a new variable entered in a stepwise manner improves prediction. An estimate of the increase in variance explained ($R^2$) can be obtained at each step by dividing $X^2$ by the step 0 goodness of fit (i.e., the $X^2$ that tests the fit of the model with only the constant included). These $R^2$ estimates are summed to obtain an estimate of total variance explained.

Limits were set so that a *P*-value had to be significant at less than .05 for a variable to enter the logistic regression equation and a variable was removed from the equation only if its *P*-value was greater than .05. For each set of variables we will first discuss the significant $X^2$ findings before considering logistic regression analyses results. These findings are discussed only in cases where $P<0.05$.

Analysis were run for three-way interactions using hiloglinear. This analysis was completed on the variables with significant $X^2$'s. None were found to have three-way interactions.

## RESULTS

### Demographics

By referring to Table 2., it can be seen that males accounted for 402 or 80 % of treatment attenders. The LAC is an adult program with clients ranging in age from 17 to 77, and the sample's mean age was 33 (SD = 10.3). In terms of ethnicity, there were 134 natives comprising (134/502) 27 % of the sample. Eight (2 %) were landed immigrants, with the remaining being non-native. Two records had missing data. With regards to marital status, most or 40 % (200/504) were recorded as being single at admission. Fifty-five (11 %) were married while 89 (18 %) were living common-law (8 of these had been divorced while 1 was married but living common-law). Divorcees accounted for 10 %, separated clients made up 20 %, and 2 % were widowed. Most, 38 % (184/487), lived in their own home. Thirty-six percent lived in an apartment, 11 % had no fixed address, 11 % were with others - unspecified, 3 % had a room, and 1 % lived in trailers.

### Family History of Substance Abuse

Eighty-three percent (379/454) of the records revealed clients to have family members with substance abuse problems. No such history was reported by 17 % (75/454) of clients.

## Social Support

It was found that 43 % (152/353) of the clients claimed to have no social support. Only 5 % clients (16) reported support by their employers or union. Another 6 % (28/353) reported support specifically by friends. Very few clients (4 %) reported having two groups of support. Such support included: friends and family, spouse or partner and family, or employer-union and family. The remainder reported support by family members. AA/NA had been attended by 33 % (159/483) of the clients.

## Education and Employment

The average level of education was 10.1 years (SD = 2.2), with a range of 2 - 20 years. A full three-quarters (75.2 %) had not completed high school. In 4 % (21) of the records this information was missing. Employed clients accounted for 68 % (336/497) of all clients. Thirty percent (150) were unemployed, 1 % (6) received disability or compensation, with 1 % (5) retired. About one-third (158/498) of the clients were employed five of the last six months. With 1 % on disability or retired, that left 67 % unemployed.

## Psychological Variables

Previous mental illness was reported by 19 % (93/500) of clients. Depression was reported most frequently by 42 % of those reporting mental illness. Interestingly, 4 % (22/500) of all clients or 24 % (22/93) of clients reporting any history of mental illness reported having two or more diagnoses. For the 430 records

in which a history of surviving physical or sexual abuse was given, 51 (12 %) survived sexual assault while 57 (13 %) survived physical, or physical and sexual assaults. One-quarter (113/452) reported planning or attempting suicide at some time in their life.

## Criminality

It was found that 88 % (422/480) of attendees reported no criminal charges pending. Of the remainder, 12 % (56) had charges pending and an additional client had an upcoming court appearance for child custody. Data on criminal offenses revealed that 79 % (252/319) reported previous legal convictions. There were 150 DWI's, 77 assaults, 72 theft-armed robbery, and 58 possession convictions. On average, 2.08 convictions were received by each client who admitted to at least one conviction.

## Substance Use Variables

The average age of first drug use was 15 (SD=4.8) with a range of 7 - 45, while for alcohol it was a year younger (SD=4.3) with a range of 3 - 44 (Table 3). The average age at which psychoactive substance use became a problem was 20 (SD=6.6, range 9 - 53) for drugs and 21 (SD=9, range 5  61) for alcohol. There were insufficient data in 131 records about the age drug use became a problem, and in 133 records about the age alcohol use became a problem. The substance of choice for 76.6 % (386/492) of the clients was alcohol. Cocaine was the drug of choice for 51 or 10 % of clients, while marijuana was third with 27 or 5 %. The

longest period of abstinence reported by a client was more than eight years. Twelve clients reported their longest abstinence as shorter than one month. The average was 11.7 months (SD=16.2)

The average number of days since the clients' last drug or alcohol use was 10 (SD =15, range 0 - 180). Client drinking patterns were initially collected in six categories: daily, binge, weekends only, daily with frequent binges, daily but heavier on the weekends, and weekends with frequent binges. These were compressed for statistical purposes to two groups: daily (daily, weekends only, daily but heavier on the weekends) and binge (binge, daily with frequent binges, weekends with frequent binges). Daily drinking was found for 85 % (414/489) of the clients and the remaining 15 % (75/489) engaged in binge drinking.

The average number of hits of a drug taken per day or binge by drug users was 10.5 (SD =14.1, range 1 72). One hit was equivalent to 1/4 gram or one joint of marijuana. The average amount of alcohol consumed in a day or binge by drinkers was 31.2 standard drinks (SD=17.25, range 3 - 97). A standard drink, as defined in the A.S.I.S.T. A Structured Addictions Assessment Interview for Selecting Treatment (1984), is equivalent to: a 12 oz bottle of 5 % beer, 5 oz of table wine, 3.5 oz of fortified wine, or 1.5 oz of spirits.

Almost three-quarters (73 %, 230/316) reported having blackouts, 22 % (69/316) were aggressive or fought, while 25 % were violent. It is clear that at least 20 % had a combination of the three. This was possible to record as up to three behaviors could

be coded for each record.

The most common withdrawal symptom was DTs, reported by 48 % (100/207) of treatment attendees. Shakes were experienced by 22 % (45/207) of the respondents. Paranoia was reported by a single substance abuser. Twenty-one (5 %) reported having no withdrawal symptoms.

## Previous Admission to Treatment

Prior substance abuse/dependence treatment was received by 53 % (256/484) of attendees. Two previous admissions were reported by 21 % (99/468), and 4 % (18/461) had four or more prior treatments. In total the attendees (484), whose records contained information on whether previous treatment had been attended, were at some 436 treatments. This breaks down to 1.7 treatments for each person who reported at least one previous treatment.

## Reason for Treatment

For 79 % (392/497) of the clients attendance at this treatment was listed as voluntary. Twelve percent (58/497) were probation - parole - court mandated. Employers mandated an additional 42 (8 %). Of the clients who entered treatment at the LAC, 64 % (320/487) completed, 178 or 35 % were non-completers and 6 or 1 % were on going or active treatment attenders. Of the 178 who did not complete, 25 or 14 % were asked to leave and 4 or 2 % were medical releases. The average number of days completed were 28 (SD = 8.5) with a range of 1 - 47 days. The break down of in-patient

to out-patient treatment was 406 to 98 (81 % in-patient).

## Completion

Results are reported on the entire sample and then broken down into six patient categories of: patient type, treatment drop-out, treatment outcome, treatment completers, in-patients, and ethnicity. Analysis of out-patient completers and out-patient drop-outs was completed but results failed to reach significance possibly because of the low number of patients in each category.

Examining the hypothesis that there would be a higher drop-out rate for out-patients than in-patients, we find the opposite true. Of the 406 in-patients who began treatment, 62 % (251) completed. For the out-patient program there was a 75 % (69/92) completion rate. The out-patient completion rate was significantly higher.

## Patient Type

The first sets of analysis explored the similarity or comparability of in-patients and out-patients. Table 5 shows a comparison of treatment type for clients with particular substance use or demographic characteristics. A number of variables were found to be significantly different between the two groups. The dependent variable has the value "0" if the client was an out-patient and "1" if an in-patient.

Many dichotomous variables differentiated each patient type. Out-patients had significantly more: depression, AA/NA attendance, and withdrawal symptoms including shakes, blackouts, flashbacks,

and DTs. The drug of choice for the two groups was different with more out-patients reporting abusing codeine, Tylenol, cocaine, and prescription medication. Significantly more in-patients reported abusing alcohol. In fact, in-patients reported alcohol as their drug of choice. Other than alcohol use and the preference of alcohol as the drug of choice, in-patients had significantly more social support than out-patients. The most important difference between the two groups was treatment completion. Significantly more out-patients (75 %) completed treatment than in-patients (62 %).

Independent two-tailed *T-tests* (Table 6) found out-patients to have significantly greater: length of longest abstinence, maximum drug intake per day or binge, and age at first drug use (older).

Multiple regression results for patient type are presented in Table 7. Analysis was completed using the variables found significant in the $X^2$ and independent *T-tests*. Four variables entered the multiple regression equation: AA/NA attendance, maximum drug intake per day or binge, social support and treatment completion. Together these variables accounted for about 10 % of the variance. AA/NA attendance by itself accounted for 3.2 % of the variance.

## Differences between In-patient Drop-outs and Out-patient Drop-outs

The three variables (Table 8 and 9) showing significant

differences between in-patient drop-outs and out-patient drop-outs were: legal convictions, attendance at previous treatment, and length of longest abstinence. Clients who were out-patients and attended previous treatment, were more likely to drop-out of treatment. The mean number of days of the longest abstinence was 31.5 for out-patients and 8.8 for in-patient treatment drop-outs. This was a significant difference. The number of clients with legal convictions was significantly different. Legal convictions were experienced by 35 % (8/23) of out-patient drop-outs and by 59 % (92/155) of in-patient drop-outs. In-patient drop-outs evidenced more legal convictions than did out-patient drop-outs.

As shown in Table 7., only length of longest abstinence entered the multiple regression analysis for in-patient drop-outs versus out-patient drop-outs. This variable explained about 42 % of the variance.

## Treatment Outcome

Five dichotomous variables (Table 10) significantly different among treatment completers as compared to treatment drop-outs were: treatment mandated, employed, native, patient type (in-patient or out-patient), and use of LSD. Native clients made up 34 % (61/177) of treatment drop-outs and 22 % (71/319) of treatment completers resulting in them being significantly more likely to not complete treatment. Likewise, clients who completed treatment were less likely to: be employed (198/316 or 63 % of completers were employed compared with 137/175 or 78 % of employed drop-outs); or

report using LSD (30/320 or 9 % of completers versus 33/178 or 19 % of drop-outs). LSD was used by significantly more drop-outs. Employed clients were significantly more likely to drop-out.

In-patients made up 78 % or 251/320 of treatment completers but 87 % or 155/178 of drop-outs. As stated earlier, in-patients were significantly more likely to be drop-outs. The one variable that was higher for completers than drop-outs was if treatment was mandatory. Twenty-four percent of completers and 15 % of drop-outs were mandated to treatment. The result was mandated clients were significantly more likely to complete treatment.

Referring to Table 7., we see that three variables entered the multiple regression analysis for treatment outcome; they were patient type, LSD, and treatment mandated. Whether the person was in-patient or out-patient explained 7 % of the variance while the other two explained about 6 % of the additional variance. Once patient type was controlled, however, being mandated to attend treatment or not using LSD were indicative of treatment completers.

## Treatment Completers

Dichotomous variables (Table 11) that distinguish out-patient treatment completers and in-patient treatment completers included female gender, legal convictions, social supports, withdrawal symptoms, family history of substance abuse, depression, prescription drugs as drug of choice, use of hard drugs; and AA/NA attendance.

Gender differences were found between in-patient completers

and out-patient completers. Out-patients, if female, were more likely to complete treatment than if they were in-patients.

Out-patient completers compared with in-patient completers had more: withdrawal symptoms (49 % vs. 27 %), including flashbacks (17 % vs. 3 %), and DTs (33 % vs. 14 %); family history of substance abuse (91 % vs. 80 %); Depression (67 % vs. 43 %); and AA/NA attendance (55 % vs. 30 %). Out-patients had specific substance use differences, including: use of prescription drugs (22 % vs. 6 %), and use of hard drugs (43 % vs. 25 %).

In-patient completers were associated with: legal convictions (67 % vs. 32 % for out-patient completers), and social supports including support of parents or family. Forty-eight percent of in-patients reported having social supports compared to only 28 % of out-patients. The greatest contributor to the difference in social support appears to be parents or family, reported by 20 % of in-patients and 9 % of out-patients.

The only variable entering the multiple regression equation was abuse of prescription drugs which accounted for 16.7 % of the difference between in-patient completers and out-patient completers.

## In-patients

The analysis of in-patient completers compared with in-patient drop-outs found several correlations (Table 13). Completer's substance use differed by: prescription drug use, use of hard drugs, including cocaine, and LSD, and withdrawals. More drop-outs

than completers reported: use of prescription drugs, LSD, and withdrawals including seizures, hallucinations, or flashbacks. Being native was associated with dropping-out as natives made up 55/154 or 38 % of drop-outs but only 59/251 or 24 % of in-patient completers. Seventy-eight percent of drop-outs were employed while 60 % of completers were employed. Depressed clients made up 56 % of the drop-outs and 44 % of completers. Employed or depressed clients were more likely to drop-out.

With 48 % of completers having social supports compared with 35 % of drop-outs, clients with social support were more likely to complete treatment. The pattern is similar for legal convictions. Legal convictions were reported by 55 % of completers compared to 45 % of drop-outs. Clients with legal convictions were more likely to complete treatment.

The only variable entering the multiple regression equation (Table 12) was abuse of prescription drugs which accounted for 11.6 % of the difference between in-patient completers and in-patient drop-outs.

## Ethnicity

Ethnicity per se contributed to prediction of treatment completion (non-natives being more likely to complete treatment than natives). In the hope of finding differences between groups that might help interpret this result, native patients were compared to the rest of the sample on all variables. These comparisons yielded four differences. Variables that distinguish

native clients from non-native clients (Table 14) included: survival of physical or sexual abuse, suicidal ideation or attempts, solvent abuse, and cocaine abuse. Of clients completing treatment, more were non-native (248/364 or 68 %) than native (72/134 or 54 %). Significantly more natives reported: survival of sexual abuse (34 % vs. 22 % of non-natives), suicidal ideation or attempts (38 % vs. 12 %), and solvent abuse (4 % vs. 1 %). Fewer natives than non-natives reported difficulty with cocaine abuse (5 % vs. 12 %).

As given in Table 12, five variables entered the multiple regression equation: suicidal ideation or attempts, treatment completion, cocaine abuse, solvent abuse, and survival of physical or sexual abuse. Taken together these accounted for about 10 % of the variance in ethnicity. Suicidal ideation or attempts contributed the most to the variance by explaining about 3 %.

## Factors not Related

### Out-patients - Completers versus Drop-outs

Analysis of out-patient completers versus out-patient drop-outs were conducted but the results did not achieve significance. This is probably due to the small number of out-patients who did not complete (n=23). Clients who left prematurely tended to have significant gaps in their clinical records. The earlier they left, the more difficult it was for the clinical staff to record the data. Since much of the client data

were collected during the first two weeks of treatment, records of clients leaving before that time provided few of the required variables.

## Sex Differences

When female and male drop-outs were compared, no significant differences were found. Women as a group drank significantly less than men (Table 15). While they drank less, this appears to not make a difference in treatment outcome. That women require less alcohol than men to produce similar results is widely accepted. The Risk-O-Graphs in the A.S.I.S.T clearly place women at greater risk of developing physical problems at lower levels of alcohol consumption than men.

Survival of sexual or physical abuse was reported by significantly more women. The same was true for suicidal ideation. Again, this variable was not significantly different in comparing female drop-outs with male drop-outs. Consequently, there was no support for the hypothesis that female drop-outs would have different characteristics than male drop-outs.

# DISCUSSION

Some variables were related to treatment completion. We will now review each of these in turn.

## In-patient and Out-patient Differences

### Support Systems

Significant differences between the characteristics of in-patients and out-patients existed. Out-patients reported greater attendance at AA/NA and fewer social supports such as family, friends, or employer. While we found that out-patients were more likely to complete treatment, attendance at AA/NA or family support did not predict whether someone completed treatment. Rather, it may be that having the support of a self-help group, and attending meetings which generally occur during the evenings, provides an intensity of treatment that is greater than what is received by the in-patients.

Although in-patients attended in-house and community-sponsored evening self-help meetings, out-patients had to use more initiative and responsibility to motivate themselves to attend these meetings. Once out-patients finished their day program they made a personal decision to attend AA/NA in the evenings.

Less AA/NA attendance by in-patients may suggest less help-seeking behaviour than out-patients. If there is less help seeking, it does not matter if there is more social support available as the client may be less likely to utilize it. Hahn & King (1982) found in-patient completers had social supports consisting of: non-nuclear relative, neighbour or friend; similar to current findings that in-patient completers had greater social supports.

## Substance Use

A measure of the severity of a patient's use is the maximum drug intake per day or binge. Again the results were not what was expected. Out-patients reported using greater amounts of a drug, which suggests a higher level of tolerance than in-patients. Since tolerance is an indicator of drug dependence, it seems that more out-patients were dependent on drugs than in-patients. As out-patients were more likely to complete treatment, this contradicts the findings (Shaw et al., 1990) that clients with higher levels of substance dependency do better (treatment completion) as in-patients. The lack of client matching between these two studies makes it difficult to compare the results.

## Drop-outs versus Completers

The second hypothesis was that drop-outs would have significantly different personal and demographic characteristics than completers. An examination of the results reveals no significant differences in demographic characteristics, such as age, sex, marital status, or education. Significantly more drop-outs were employed than treatment completers, but employment did not enter the multiple regression. This supports Stark & Campbell (1988) but goes against Baekeland & Lundwall's (1975) and Beckman's (1985) findings that employment was strongly associated with continuation in treatment. Noel et al. (1987) also found employed patients less likely to drop out of treatment. The lack of standardized definitions of terms again appears to complicate the

findings. It is likely that Stark & Campbell's (1988) program and the current program have a component that appeals to unemployed clients and they are more likely to remain in treatment. Other programs may not match well with unemployed clients and they tend to drop-out whereas employed clients remain.

Comparing treatment completers and drop-outs for the entire sample (In-patient plus out-patient, n = 504) found differences in ethnicity and completion. Non-natives were significantly more likely to complete treatment than Natives. This will be discussed in greater detail elsewhere.

Being unemployed suggests greater availability for treatment, and being mandated provides additional incentive to complete, particularly if dropping out resulted in a breach of probation or job loss.

In the stepwise analysis, the best discriminators between those who completed treatment and those who dropped out were: patient type, LSD, and treatment mandated. We have already discussed patient type leaving the other two variables. When violation of probation, loss of employment or ending of a love relationship is the alternative to mandatory attendance at treatment, it is not surprising that a strong association was found between treatment mandated and treatment completion. Mandated patients completing treatment suggests the potency of legal pressure. Other studies, however, have found very different results. Noel et al. (1987) found that "problem drinkers who made their own initial contact with the program were much more likely to

remain in treatment than those for whom someone else called." Raynes & Patch (1971) reported that drop-outs were more likely to be court referred.

The final client variable associated with dropping out of in-patient or out-patient treatment was LSD use. With patient type entering at the first step of the multiple regression and explaining 7 % of the variance, LSD use discriminates an additional 3 % given patient type. Treatment drop-outs reported significantly greater use of LSD than completers. LSD drug of choice users account for 8 of 504 patients (2%). Similar to the prescription drug of choice users they may have had difficulty identifying with problem drinkers.

## Drop-outs: In-patient versus Out-patient

Out-patient drop-outs having significantly different personal and demographic characteristics than in-patient drop-outs was the third hypothesis. Significant differences for in-patient drop-outs were: more legal convictions, less previous treatment, and shorter periods of longest abstinence. None of these variables were significantly different between in-patients and out-patients regardless of treatment completion. There appears to be a relationship between attendance at previous treatment and the type of current program attended.

Greenwald & Bartemeier (1963) as cited in Baekeland & Lundwall (1975), in a study of psychiatric in-patients indicated that those leaving against medical advice had more previous hospitalizations.

In the present study significantly more out-patient drop-outs had previous treatment than in-patient drop-outs. Whether a client had attended previous treatment, and the outcome of that treatment (i.e., complete or drop-out) were coded for this study. However, it was found that while many client files did list whether previous treatment was attended, there seldom were data on the outcome of that treatment.

The largest factor in the study, accounting for about 42 % of the variance between in-patient drop-outs and out-patient drop-outs, was the length of the client's longest period of abstinence. Out-patient drop-outs had significantly longer periods of prior abstinence than in-patient drop-outs. Longer periods of abstinence may give out-patients an advantage over in-patients as they already have skills to maintain abstinence while in treatment. These out-patients also have significant social support (AA/NA) already in place to help them through treatment. Because they are familiar with the fellowship of AA/NA, they might be expected to adjust more quickly to the group sessions utilized in treatment. As going to AA/NA suggests help-seeking behaviour, these clients might interact more closely with treatment staff by more actively seeking assistance, and by sharing in group settings.

## Treatment Completers: In-patient versus Out-patient

While 13 variables were correlated with treatment completion, including: females having a higher completion rate in out-patient treatment than in-patient treatment, and out-patients being one and

one-half times more likely to report depression; only the abuse of prescription drugs entered the multiple regression equation.

Prescription drug abuse was reported by significantly more out-patient treatment completers than in-patient treatment completers, as well as by more in-patient drop-outs than in-patient completers. Out-patient treatment completers were also three and one-half times more likely to report prescriptions as their drug of choice. Prescription drug abuse accounted for about 17 % of the variance among completers of the two programs. Within the sample of in-patients, prescription drug abuse accounted for about 12 % of the variance between completers and drop-outs with more drop-outs reporting abuse of prescription drugs. Returning to the raw data we find 30 out-patient clients abused prescription drugs while only 5 reported prescription medication as their drug of choice. An explanation (From Table 3) may be that the prescription drug of choice users accounted for 5 of 504 patients (1%), with the majority (79%) of patients reporting alcohol as drug of choice. The focus of the treatment material would have been oriented to people struggling with alcohol since they were the majority of clients. Prescription drug users may have had difficulty identifying with problem drinkers. Not "fitting in" in-patient prescription drug users may have left treatment as a result of feelings of frustration or isolation. While this may be the case for in-patient completers and in-patient drop-outs, the same does not appear to be true of out-patient completers compared with out-patient drop-outs.

## In-patients: Completers versus Drop-outs

Predictors of treatment completion among in-patients were examined. Eight variables were correlated with in-patient completion, including: unemployed, having social supports, experiencing few or no withdrawals, prescription drug abuse, non-native, and used little or no hard drugs such as cocaine or LSD. The only variable that entered the multiple regression was prescription drug abuse which was discussed earlier.

## Native Ethnicity

The final hypothesis, Native clients would have significantly higher drop-out rates than non-natives, was supported. Native clients were significantly more likely to drop-out of treatment and have suicidal ideation or attempts. As for differences in substance use variables, cocaine was used less and solvents were used significantly more. Survival of physical or sexual abuse was more often reported by native clients.

There are several interpretations for the present study. That Native clients were found to report suicidal ideation or attempts is not unexpected. For the past few years suicides in the northern Ontario Native communities have reached epidemic proportions. As a result, communities such as Wunnimin Lake have developed 24 hour crisis lines, and crisis response teams.

Natives were more likely to use solvents than non-natives (4 % vs. 1 %). With many Native communities prohibiting the sale or use of alcohol, people turn to what is available, including:

gasoline, paint thinners, naphtha, and glue. Since solvents are more physically and cognitively damaging than alcohol the racial difference in completer status may be due to a higher degree of physical or cognitive impairment.

The survival of abuse appears to complicate the treatment of substance abuse disorders. Women specific programs tend to recognize this more and have specific group and individual work to address the issue and help the woman work through it. Men's groups appear to be slowly recognizing the need as more males are sharing their experiences. Among the Native communities in north-western Ontario we are hearing of what is called the "Residential School Syndrome." With the well publicized court cases of former residential school staff more and more survivors are seeking treatment who were physically and/or sexually abused in residential schools. It is the author's impression that a significant number of boys, now men, were the victims, not girls.

Complicated with abuse is the loss of traditional beliefs. Residential schools were often Catholic or Mennonite and students were severely punished for speaking their language or practicing their traditional religion. Generations of Native students lost their heritage and many are struggling with their identity. Ceremonies such as sacred circles, sweats, healing circles, smudging and pow-wows are traditional therapeutic ways of the Native culture (Ross, 1992). The author was not able to find studies of drop-out from treatment programs using a traditional Native approach. It is suspected that such programs might have

lower drop-out rates for Native clients as they are sensitive to their traditional cultural beliefs. A study cited in Weibel-Orlando (1989) reported that clients attending an eclectic treatment program offering imaging, channelling, biofeedback, a sweathouse and indigenous prayer ceremony rituals had a 72% sobriety rate six months after completion of treatment. However, the program coordinator reported that client reports were taken at face value, program personnel relied on "word of mouth" as to whether someone had relapsed, and if the client could not be located, reports by family members or friends were also taken at face value. If the program coordinator was not told anything to the contrary, "it was assumed that the person was drug-free."

The point of this detailed description of the program's treatment follow-up practice is to illustrate that, even in the most promising, well-organized and highly motivated substance abuse intervention programs, there is little hard or systematically collected data about the effectiveness of the intervention in changing drinking patterns.

Other explanations for the higher rate of Native drop-out include the use of non-native staff and language. The treatment staff may have consisted of non-natives who may have had difficulty forming a therapeutic alliance with minority group patients. Additionally, the English language may have been the second language for many Natives, decreasing their level of understanding.

A survey of Native addiction treatment counsellors and staff was completed by the Province of British Columbia, Ministry of

Labour and Consumer Services (1988). Most respondents (64%) agreed that "most Native people have treatment needs that are very different from those of non-Natives." About one-half (49%) of respondents agreed that "most substance abuse treatment programs are appropriate for Native people. The vast majority (83%) agreed "participation in cultural aspects of Native substance abuse treatment programs, such as sweat lodges or sweet grass ceremonies, should be optional to Native clients."

Gawin et al. (1989) found that minorities were significantly more likely than Whites to drop out early in treatment. Agosti (1991) reported out-patient drop-out rates to be greater among minorities (74%) than Whites (22%). Perez-Arce, Carr & Sorensen (1993) indicate that ethnicity affects patient expectancy, engagement in treatment, service utilization, patient selection bias, and attrition from treatment.

A study of alcoholism in a Native American village by Leung et al. (1992) found that only 17% (8/46) of Natives cited alcohol treatment as a major factor in having stopped drinking. The majority, 83%, stopped without any specific treatment. In explaining these findings, the authors attributed the abstinence to

> "economic, social and cultural changes that have brought renewed tribal identity and stability. There was a renewal of interest in tribal history, customs and culture (led by museum personnel and tribal elders) which resulted in more interest and pride in the tribal heritage." (p. 737).

## Limitations of the Study

### History

Campbell, D.T. and Stanley, J.C. (1966) identify history effects as a threat to internal validity. That is, in-patient and out-patient groups were composed of individuals treated at separate points in time raising the possibility they differed in other ways than in-patient or out-patient status. For example, LSD may have been more available, or program policies may have changed.

### Use of Correlational Data

When interpreting the study's findings, its limitations must be noted. This was an exploratory, descriptive study that drew on correlational data in reaching its conclusions. Although correlations were significant and strong in some cases, the results do not imply causation. For example, while being unemployed was highly correlated with completion of in-patient treatment, it cannot be assumed that joblessness produced treatment completion. Further, other than the use of prescription drugs no other variable accounted for the variance between in-patient completers and in-patient drop-outs. Other, unexamined variables may explain the associations and the results. Further, because the sample was fairly homogeneous on key variables like marital status, age, sex, and psychiatric history, their effect on other factors such as treatment completion and substance use patterns was suppressed. Finally, because information was obtained from a record review,

important components of the treatment process and response were unexamined. The record review did not permit close examination of differences in the types of services clients received nor in variations in the quality of client participation with different services. Closer examination of treatment specificity may have revealed more information about treatment response.

Intervening Variables.

Since patients in this study were not randomly assigned to treatment, a number of intervening variables may have been operating. For example, patients may have matched themselves to a particular treatment that they found most appealing or useful. Those electing out-patient treatment may have done so because of poor or nonexistent relationships with their families. They may have been the people living alone who were predicted by Baekeland et al. (1973) to be the ones most likely to drop out.

Extenuating Circumstances.

Finally, there may be extenuating circumstances which affect the process and outcome of treatment. For example, specific aspects of the treatment program such as impact of the staff's perceptions of clients, the influences of family members, co-workers, and/or social pressures may contribute to how long a patient stays in treatment. In order to more fully evaluate the factors which impact treatment length of stay, future research needs to be developed in which staff's evaluations of patients, the

influence of significant others, and patient's circumstances (i.e., facing a prison sentence) are assessed in addition to patient's factors.

## CONCLUSION

The study's major finding was that clients more likely to drop-out of treatment were: native, in-patients, employed and not mandated to treatment. Characteristics related to the seriousness of the client's drinking/drug use problem which had a significant ability to predict completion of treatment included: longest abstinence; and use of LSD or prescription medication. The nature of the treatment itself was the most significant predictor, with out-patients being more likely to complete.

This study reported the treatment outcome, as measured by treatment completion, of in-patient and out-patient clients who entered a specialized centre providing treatment for their substance use disorders. As the descriptive characteristics of the sample revealed, clients admitted to the centre were primarily alcohol drinkers who experienced marked substance use problems. Despite their obvious needs, many had not engaged in prior substance abuse treatment.

In sum, clients who were more likely to complete treatment were: out-patients, non-native, mandated to treatment, and reported little or no LSD use. A profile of a chemical dependent who completes in-patient treatment may consist of the following traits: few or no withdrawals, unemployed, social supports, not

depressed, and doesn't use cocaine or prescription drugs.

Comparisons among patient intake characteristics, substance use data, and treatment outcome figures yielded some interesting findings. In-patients were found to have significantly different characteristics than out-patients, such as: more social support, less AA/NA attendance, and less maximum drug intake per day or binge.

Why is it important to be able to predict the potential drop-out? The question has clinical, organizational and economic significance. With respect to drug treatment programs, the patient is three times as likely to be free from drugs one year later if he completes treatment than if he drops out (Baekeland & Lundwall, 1975). A recent review by Eliany & Rush (1992) reports that, on average, 50-65% of individuals receiving addiction treatment show improvement at follow-up. Of the group showing improvement, about one-half will have ceased all alcohol or other drug use or will have substantially reduced their consumption; the other half will have made major reductions in their level of consumption and significant improvements in other life areas but will not necessarily have all their alcohol or other drug-related problems resolved. Numerous studies cite the relationship between time in treatment and successful outcome (i.e., abstinence). Although causality cannot be inferred patients may be advised of this statistic. Thus, keeping a patient in treatment has potential important clinical outcome ramifications.

The benefits derived by determining and differentiating the

characteristics of client drop-outs and non-drop-outs are: the results could be used in determining the type of client best suited to current treatment practices (matching clients to treatment).

An overriding conclusion from the review of the literature is that given the diversity of the population seeking treatment, not all types of interventions or programs will necessarily be effective for all types of individuals in need of assistance. It is now widely accepted that treatment effectiveness is likely to be maximized by matching the specific problems and strengths of the individual to the specific type of intervention or program. Further, the potential value of such client-treatment matching underscores the need for the comprehensive assessment of each individual and the development of individualized treatment plans.

It is beyond the scope of this study to describe and assess the value of different strategies and techniques for the assessment of people with alcohol and other drug problems. In general, assessment should focus on the quantity, frequency and pattern of past and present substance use, the level of dependence and the nature and extent of substance problems (i.e., health, social, occupational, legal, spiritual, intrapersonal). Assessment should also focus on the client's level of motivation for change. There is an emerging consensus as well that the client's expressed needs and requests for assistance are an important part of the assessment process and the effective matching to treatment. Finally, assessment should take into account the individual's social context and involve family members and significant others where

appropriate.

Improvement in patient retention would also have organizational impact. Reducing the drop-out rate would increase average daily census, increase the average length of stay, and reduce turnover rates. Paperwork would be reduced, which tends to be maximized during the first week of admission and around the date of discharge. This allows staff more time to assess, intervene and gauge the effectiveness of treatment delivery, thereby promoting an increase in staff morale. Furthermore, improvement in patient retention would assist in the allocation of staff and capital resources according to those who would most likely benefit from them.

It may be extremely difficult to predict a complex piece of behavior such as dropping out of treatment because it may be an impetuous, impulsive act precipitated by environmental/interactional stresses in some individuals, whereas it may be "planned" by others who never intended to complete the program in the first place (Craig, 1984) yet both instances will be classified as a "drop-out."

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Table 1.

Predicting Treatment Outcome

| | Treatment Outcome | | |
|---|---|---|---|
| Variable | Complete | Non-complete | Failure to Predict |
| A.A./N.A. | Afford et al (91) | | |
| Women | Agosti et al (91)<br>Brewer et al (90) | Baekeland & Lundwall (75) | |
| Employed | Brewer et al (90)<br>Noel et al (75) | | O'Brien et al (89)<br>Stark & Campbell (88) |
| Not suffering with acute withdrawal | Brewer et al (90) | | |
| Willing to commit to a number of self-help meetings following treatment | Brewer et al (90) | | |
| Self-referred | Noel et al (87) | | Owen & Kohutek (81) |
| Referred by others | Noel et al (87) | | |
| Court mandated | Stark & Campbell (88) | | |
| Unemployed | | Baekeland & Lundwall (75)<br>Noel et al (86) | |
| Housewife | | Baekeland & Lundwall (75) | |

Predicting Treatment Outcome

| | Treatment Outcome | | |
|---|---|---|---|
| Variable | Complete | Non-complete | Failure to Predict |
| Divorced | | Baekeland & Lundwall (75) | |
| Single | | Baekeland et al (73)<br>Baekeland & Lundwall (75) | |
| Less social stability in terms of employment and having a place to live | | Baekeland & Lundwall (75)<br>Welte et al (81) | |
| Part-time employment | | Noel et al (86) | |
| Disabled workers | | Noel et al (86) | |
| High levels of anxiety | | Robinson & Little (82)<br>Baekeland & Lundwall (75) | |
| Depression | Agosti et al (91) | Robinson & Little (82)<br>Baekeland & Lundwall (75)<br>Keegan & Lachar (79)<br>O'Leary et al (79)<br>Steer (83 a+b)<br>Craig (84) | |
| Impulsivity | | Robinson & Little (82)<br>Baekeland & Lundwall (75)<br>Keegan & Lachar (79)<br>O'Leary et al (79)<br>Steer (83 a+b) | |
| Better educated | Patton (78) | | |
| Low income women | Beckman & Bardsley (86) | | |

Predicting Treatment Outcome

| | Treatment Outcome | | |
|---|---|---|---|
| Variable | Complete | Non-complete | Failure to Predict |
| Married men | Beckman & Bardsley (86) | | |
| Employment Status of men | Beckman & Bardsley (86) | | Stark & Campbell (88) |
| Men (Occupational prestige) | Beckman & Bardsley (86) | | |
| Men (Income) | Beckman & Bardsley (86) | | |
| Men (# of Children) | Beckman & Bardsley (86) | | |
| Married | Baekeland & Lundwall (75) | | Stark & Campbell (88) |
| Anxiety | Keegan & Lackar (79) | O'Leary et al (79)<br>Robinson & Little (82)<br>Steer (83 a+b) | |
| Antisocial personality | | Keegan & Lackar (79)<br>O'Leary et al (79)<br>Robinson & Little (82)<br>Steer (83 a+b) | |
| Low Self-Esteem | | Baekeland & Lundwall (75)<br>Welte et al (81) | |
| Younger | | Welte et al (81) | |
| Low SES | | Baekeland & Lundwall (75)<br>Welte et al (81) | Alford et al (91) |

Predicting Treatment Outcome

| | Treatment Outcome | | |
|---|---|---|---|
| Variable | Complete | Non-complete | Failure to Predict |
| Youth | | Baekeland & Lundwall (75)<br>Welte et al (81) | |
| Men (Previous treatment) | | Beckman & Bardsley (86) | |
| Women (Dependence symptoms) | | Beckman & Bardsley (86) | |
| Age | | | Alford et al (91)<br>O'Brien et al (89)<br>Stark & Campbell (88)<br>Pekarik et al (86)<br>Fisher - Nelson (87)<br>Wilson & Whelan (83)<br>Steer (83 a+b)<br>Linn (78)<br>Leigh et al (84)<br>Hahh & King (82)<br>Gossop (78)<br>Hanson et al (90) |
| Employment Status | | | Wilson & Whelan (83)<br>Steer (83 a+b)<br>Linn (78)<br>Leigh et al (84)<br>Hahh & King (82)<br>Gossop (78)<br>Hanson et al (90) |
| Social Class | | | Wilson & Whelan (83)<br>Steer (83 a+b)<br>Linn (78)<br>Leigh et al (84)<br>Hahh & King (82)<br>Gossop (78)<br>Hanson et al (90) |

Predicting Treatment Outcome

| | Treatment Outcome | | |
|---|---|---|---|
| Variable | Complete | Non-complete | Failure to Predict |
| Social stability | | | Wilson & Whelan (83)<br>Steer (83 a+b)<br>Linn (78)<br>Leigh et al (84)<br>Hahh & King (82)<br>Gossop (78)<br>Hanson et al (90) |
| Race | | | Wilson & Whelan (83)<br>Steer (83 a+b)<br>Linn (78)<br>Leigh et al (84)<br>Hahh & King (82)<br>Gossop (78)<br>Hanson et al (90) |
| Nature of Referral | | | Wilson & Whelan (83)<br>Steer (83 a+b)<br>Linn (78)<br>Leigh et al (84)<br>Hahh & King (82)<br>Gossop (78)<br>Hanson et al (90) |
| Men (Self-Esteem) | | Beckman & Bardsley (86) | |
| Men (Lower self-efficacy) | | Beckman & Bardsley (86) | |
| Men (Depression) | | Beckman & Bardsley (86) | |
| Women (A.A. Attendance) | | Beckman & Bardsley (86) | |
| Sex | | | Alford et al (91)0<br>O'Brien et al (89)<br>Stark & Campbell (88)<br>Hansen et al (90) |

Predicting Treatment Outcome

| Variable | Treatment Outcome: Complete | Treatment Outcome: Non-complete | Failure to Predict |
|---|---|---|---|
| Drug of choice | | | Alford et al (91) |
| Drug (frequency of use) | | | Alford et al (91) |
| Drug (duration of use) | | | Alford et al (91) |
| Drug (Age of first use) | | | O'Brien et al (89)<br>Stark & Campbell (88) |
| Primary drug | | | O'Brien et al (89)<br>Stark & Campbell (88) |
| Drug (Frequency per week) | | | O'Brien et al (89)<br>Stark & Campbell (88) |
| Drug (Method of use) | | | O'Brien et al (89)<br>Stark & Campbell (88) |
| Secondary drug | | | O'Brien et al (89)<br>Stark & Campbell (88) |
| Marital status | | | O'Brien et al (89)<br>Stark & Campbell (88)<br>Hanson et al (90) |
| Education | | | O'Brien et al (89)<br>Stark & Campbell (88)<br>Pekarik et al (86) |
| Ethnicity | | | Hanson et al (90)<br>Stark & Campbell (88) |
| Income Source | | | Hanson et al (90) |

Predicting Treatment Outcome

| | Treatment Outcome | | |
|---|---|---|---|
| Variable | Complete | Non-complete | Failure to Predict |
| Women (Lower self-esteem) | Beckman (78) | | |
| Women (Divorced) | Beckman & Bardsely (86)<br>Nespor (90) | | |
| Women (Living with an Alcoholic "significant other") | Beckman & Bardsely 986)<br>Nespor (90) | | |
| Women (Date of onset of pathological drinking to a stressful event) | Beckman & Bardsley (86)<br>Nespor (90) | | |
| Women (more likely to abuse tranquilizers) | Beckman & Bardsely (86)<br>Nespor (90) | | |
| Women (more likely to abuse sedatives) | Beckman & Bardsely (86)<br>Nespor (90) | | |
| Women (more likely to abuse amphetamines) | Beckman & Bardsely (86)<br>Nespor (90) | | |
| Women (Greater anxiety) | Beckman & Bardsely (86)<br>Nespor (90) | | |
| Women (Greater depression) | Beckman & Bardsely (86)<br>Nespor (90) | | |
| Age (Senior 65+) | Owen & Kahutek (81) | | |
| 18-24 years of age | Owen & Kahutek (81) | | |
| Marriage Problems | Owen & Kahutek (81) | | |

Predicting Treatment Outcome

| | Treatment Outcome | | |
|---|---|---|---|
| Variable | Complete | Non-complete | Failure to Predict |
| Family Problems | Owen & Kahutek (81) | | |
| Family pressure to remain in treatment | Weidman (87)<br>Gossop (78)<br>Elfred & Washington (76) | Ward & Hansely (81) | |
| Lives alone (Suggests less cohesive support network) | | Baekeland et al (73) | |
| Family pathology | | Baekeland & Lundwall (75) | |
| Attitudes | | Baekeland & Lundwall (75) | |
| American Indians | | Fagan & Mauss (78) | |
| White | Agosti et al (91) | | |
| No history of depression | | Agosti et al (91) | |
| Men | | Agosti et al (91) | |
| Black | | Agosti et al (91) | |
| Hispanic | | Agosti et al (91) | |

Table 2.

Background Characteristics of the Entire Sample

| Variable | Number | % | m(SD) | Range |
|---|---|---|---|---|
| Sex | | | | |
| Males | 402 | 80 | | |
| Females | 102 | 20 | | |
| Age | | | 33(10.3) | 17-77 |
| Ethnicity | | | | |
| Non-Native | 368 | 71 | | |
| Native | 134 | 27 | | |
| Landed Immigrant | 8 | 2 | | |
| Marital Status | | | | |
| Single | 200 | 40 | | |
| Married | 55 | 11 | | |
| Common-Law | 89 | 18 | | |
| Divorcees | 49 | 10 | | |
| Separated | 100 | 18 | | |
| Widowed | 11 | 2 | | |
| Accommodation | | | | |
| Own home | 184 | 38 | | |
| Apartment | 177 | 36 | | |
| NFA | 54 | 11 | | |
| Trailer | 4 | 1 | | |
| Room | 13 | 3 | | |
| With others - unspecified | 52 | 11 | | |
| Group Home | 2 | 1 | | |
| Family History of Substance Abuse | | | | |
| Yes | 379 | 83 | | |
| No | 75 | 17 | | |
| Social Support | | | | |
| None | 152 | 43 | | |
| Family | 148 | 42 | | |
| Friends | 28 | 6 | | |
| Employer/Union | 16 | 5 | | |
| AA/NA Attendance | | | | |
| Yes | 159 | 33 | | |
| No | 324 | 67 | | |
| Education | | | 10.1(2.2) | 2-20 |
| Incomplete H.S. | 379 | 75 | | |
| Completed H.S. | 125 | 25 | | |

Background Characteristics of the Entire Sample

| Variable | Number | % | m(SD) | Range |
|---|---|---|---|---|
| Employment | | | | |
| Employed | 336 | 68 | | |
| Unemployed | 150 | 30 | | |
| Disability | 6 | 1 | | |
| Retired | 5 | 1 | | |
| Employed 5 of last 6 Months | | | | |
| Yes | 158 | 32 | | |
| No | 332 | 67 | | |
| Disability | 2 | .5 | | |
| Retired | 5 | 1 | | |
| Previous psychiatric diagnosis | 93 | 19 | | |
| Depression | 51 | 10 | % of all clients, 55 % of diagnosed | |
| History of Abuse | | | | |
| Sexual Assault | 57 | 13 | | |
| Physical | 51 | 12 | | |
| Suicidal Ideation | | | | |
| Yes | 113 | 25 | | |
| No | 339 | 75 | | |
| Charges Pending | | | | |
| Yes | 56 | 12 | | |
| No | 422 | 88 | | |
| Previous Legml Convictions | (Total >100 % as client may have 2 or more charges) 252 | 79 | | |
| DWI | 150 | 47 | | |
| Assault | 77 | 24 | | |
| Robbery | 72 | 23 | | |
| Possession | 58 | 18 | | |

Table 3.

Substance Use Characteristics

| Variable | Number | % | m(SD) | Range |
|---|---|---|---|---|
| Age first | | | | |
| Drug use | | | 15(4.8) | 7-45 |
| Alcohol use | | | 14(4.3) | 3-44 |
| Age use a problem | | | | |
| Drugs | | | 20(6.6) | 9-54 |
| Alcohol | | | 21(9) | 5-61 |
| Substance of choice | | | | |
| Alcohol | 386 | 79 | | |
| Cocaine | 51 | 10 | | |
| Marijuana | 27 | 5 | | |
| Hash | 4 | 1 | | |
| LSD | 8 | 2 | | |
| Prescription | 5 | 1 | | |
| Codeine | 4 | 1 | | |
| Longest Abstinence (in months) | | | 12(16.2) | 0-98 |
| Last substance use (in days) | | | 13.9(15) | 0-180 |
| Number of 'hits' of a drug/day or binge | | | 10.5(14.1) | 1-72 |
| Number of standard drinks/day or binge | | | 31.2(17.3) | 3-97 |
| Behavior when Intoxicated (Total > 100 % as 2 or more may be experienced by the same client) | | | | |
| Blackouts | 230 | 73 | | |
| Aggressive | 69 | 22 | | |
| Violent | 89 | 28 | | |
| Depressed | 20 | 6 | | |
| Suicidal | 6 | 2 | | |
| Withdrawal Symptoms (Total > 100 % as 2 or more may be experienced by the same client) | | | | |
| DT's | 100 | 48 | | |
| Shakes | 45 | 22 | | |
| Flash Backs | 34 | 16 | | |
| Seizures | 33 | 16 | | |
| Sick | 40 | 19 | | |
| Hallucinations | 13 | 6 | | |
| Paranoia | 1 | 1 | | |
| NONE | 21 | 5 | | |

Substance Use Characteristics

| Variable | Number | % | m(SD) | Range |
|---|---|---|---|---|
| Previous Admission to Treatment | | | | |
| Yes | 256 | 53 | | |
| No | 227 | 47 | | |
| 2 or more | 99 | 21 | | |
| 4 or more | 18 | 4 | | |
| Referral to Treatment | | | | |
| Voluntary | 392 | 79 | | |
| Probation/Parole/ Court | 58 | 12 | | |
| Employer Mandated | 42 | 8 | | |
| Treatment Type | | | | |
| In-patient | 406 | 81 | | |
| Out-patient | 98 | 19 | | |
| Treatment | | | | |
| Complete | 320 | 64 | | |
| In-patient | 251 | 62 | | |
| Out-patient | 69 | 75 | | |
| Incomplete | 178 | 35 | | |
| In-patient | 155 | 38 | | |
| Out-patient | 23 | 25 | | |
| On-going | 6 | 1 | | |
| Of clients not completing Treatment | | | | |
| Discontinued | 149 | 84 | | |
| Asked to leave | 25 | 14 | | |
| Medical release | 4 | 2 | | |
| Days in current Treatment | | | | |
| (including completers) | | | 26(11) | 1-47 |
| (excluding completers) | | | 14.6(10) | 1-32 |

Table 4.

Client Drinking Patterns

| Pattern | Number of Clients | Percent |
|---|---|---|
| Daily | 375 | 74 |
| Binge | 36 | 7 |
| Weekends only | 29 | 6 |
| Daily with frequent binges | 38 | 8 |
| Daily but heavier on the weekends | 10 | 2 |
| Weekends with frequent binges | 1 | 0.2 |
| | 489 | 97% |

*Note:* Column totals reflect missing data.

Table 5.

Dichotomous Variables Correlated with Patient Type[a]

| Variable | Out-patient | In-patient | $X^2$ | Sig. |
|---|---|---|---|---|
| Codeine | 5/98 ( 5%) | 6/406 ( 1%) | - | .043[b] |
| Tylenol | 9/98 ( 9%) | 11/406 ( 3%) | - | .007[b] |
| Alcohol | 74/98 (76%) | 373/406 (92%) | 21.07 | .000 |
| Cocaine | 30/98 (31%) | 76/406 (19%) | 6.72 | .010 |
| Prescription Drugs | 7/98 ( 7%) | 8/406 ( 2%) | - | .014[b] |
| Drug Preference - Alcohol | 61/98 (62%) | 325/406 (80%) | 13.96 | .000 |
| Depression | 54/78 (69%) | 179/371 (48%) | 11.37 | .001 |
| Withdrawals | 45/98 (46%) | 137/406 (34%) | 5.07 | .024 |
| Shakes | 4/98 ( 4%) | 2/404 (.5%) | - | .015[b] |
| Blackouts | 63/98 (64%) | 162/406 (40%) | 18.99 | .000 |
| Flashbacks | 16/98 (16%) | 18/406 ( 4%) | 17.75 | .000 |
| DTs | 30/98 (30%) | 70/406 (17%) | 8.87 | .003 |
| Social Support | 26/98 (26%) | 176/406 (43%) | 9.30 | .002 |
| AA/NA Attendance | 47/90 (52%) | 112/394 (28%) | 18.92 | .000 |
| Treatment complete | 69/92 (75%) | 251/406 (62%) | 5.67 | .017 |

[a]Dependent variable is coded "0" for out-patient and "1" for in-patient. [b]Fischer-Exact test.

Table 6.

Variables Correlated with Patient Type[a]

| Variable | Out-patient Mean | Out-patient S.D. | In-patient Mean | In-patient S.D. | t(d.f.) | 2-tail Prob. |
|---|---|---|---|---|---|---|
| Last Use (days) | 19.46 | 30.82 | 11.96 | 19.51 | 1.97(220) | .050 |
| Days Complete | 26.03 | 7.89 | 23.45 | 8.60 | 2.58(475) | .010 |
| Longest Abstinence (months) | 19.24 | 21.82 | 10.23 | 14.54 | 3.20(237) | .002 |
| Maximum Drug Intake (Day or Binge) | 11.00 | 27.35 | 3.90 | 11.07 | 2.56(231) | .011 |
| Age First Drug Use | 13.90 | 15.43 | 10.92 | 8.04 | 2.46(445) | .014 |
| Family History | 1.93 | .37 | 1.82 | .42 | 2.12(408) | .035 |

[a]Dependent variable is coded "0" for out-patient and "1" for in-patient.

Table 7.

Variables entering into each multiple regression equation

| Step | Variable | F Change | Signif F | Partial Cor[b] | Change in R |
|---|---|---|---|---|---|
| | **Patient Type[a]** | | | | |
| 1 | AA/NA attendance | 7.51 | .007 | -.180 | .032 |
| 2 | Maximum drug intake per day or binge | 7.20 | .001 | -.178 | .028 |
| 3 | Social support | 6.35 | .000 | .122 | .018 |
| 4 | Treatment complete | 5.99 | .000 | -.141 | .019 |
| | **Treatment-Dropouts[a]** | | | | |
| 1 | Longest Abstinence | 15.06 | .001 | -.646 | .418 |
| | **Treatment Outcome[c]** | | | | |
| 1 | Patient Type[a] | 13.54 | .000 | -.265 | .070 |
| 2 | LSD | 5.90 | .000 | -.146 | .030 |
| 3 | Treatment mandated | 5.92 | .000 | .201 | .029 |

[a]Dependent variable is coded "0" for out-patient and "1" for in-patient. Positive partial correlations indicate that in-patients have higher scores than out-patients.
[b]At last step.
[c]Dependent variable is coded "0" for drop-outs and "1" for completers.

Table 8.

Dichotomous Variables Correlated with Treatment Drop-out[a]

| Variable | Out-patient | In-patient | $X^2$ | Sig. |
|---|---|---|---|---|
| Legal convictions | 8/23 (35%) | 92/155 (59%) | 4.91 | .027 |
| Previous treatment | 19/23 (83%) | 91/155 (59%) | 4.85 | .028 |

[a]Treatment drop-out is "0" for out-patient drop-outs and "1" for in-patient drop-outs.

Table 9.

Variables Correlated with Treatment Drop-out[a]

| Variable | Out-patient Mean | Out-patient S.D. | In-patient Mean | In-patient S.D. | t(d.f.) | 2-tail Prob. |
|---|---|---|---|---|---|---|
| Longest abstinence (days) | 31.50 | 26.64 | 8.80 | 13.88 | 3.04(22) | .003 |

[a]Treatment drop-out is "0" for out-patient drop-outs and "1" for in-patient drop-outs.

Table 10.

Dichotomous Variables Correlated with Treatment Outcome[a]

| Variable | Completers | Drop-outs | $X^2$ | Sig. |
|---|---|---|---|---|
| Treatment mandatory | 77/317 (24%) | 27/175 (15%) | 5.31 | .021 |
| Employed | 198/316 (63%) | 137/175 (78%) | 12.69 | .000 |
| Native | 71/319 (22%) | 61/177 (34%) | 8.68 | .003 |
| In-patient | 251/320 (78%) | 155/178 (87%) | 5.67 | .017 |
| LSD | 30/320 ( 9%) | 33/178 (19%) | 8.69 | .003 |

[a]Dependent variable is coded "0" for drop-outs and "1" for completers.

Table 11.

Dichotomous Variables Correlated with Treatment Completers[a]

| Variable | Out-patient | In-patient | $X^2$ | Sig. |
|---|---|---|---|---|
| Gender - Female | 6/69 ( 9%) | 3/251 ( 1%) | - | .004[b] |
| Legal convictions | 22/69 (32%) | 169/251 (67%) | 28.26 | .000 |
| Support of parents or family | 6/69 ( 9%) | 50/251 (20%) | 4.72 | .030 |
| Social supports | 19/69 (28%) | 121/251 (48%) | 9.40 | .002 |
| Withdrawal symptoms | 34/69 (49%) | 69/251 (27%) | 11.77 | .001 |
| Flashbacks | 12/69 (17%) | 7/251 ( 3%) | 20.66 | .000 |
| DTs | 23/69 (33%) | 36/251 (14%) | 12.98 | .000 |
| Family history of substance abuse | 59/65 (91%) | 182/228 (80%) | 4.15 | .042 |
| Depression | 37/55 (67%) | 101/232 (43%) | 10.04 | .002 |
| Drug of choice - prescription drugs | 5/69 ( 7%) | 5/251 ( 2%) | - | .042[b] |
| Hard drugs | 30/69 (43%) | 63/251 (25%) | 8.88 | .003 |
| Prescription drugs | 15/69 (22%) | 15/251 ( 6%) | 15.83 | .000 |
| AA/NA attendance | 36/66 (55%) | 72/244 (30%) | 14.34 | .000 |

[a]Dependent variable is coded "0" for in-patient completers and "1" for out-patient completers. [b]Fischer-Exact test.

Table 12.

Variables Entering into each Multiple Regression Equation

| Step | Variable | F Change | Signif F | Partial Cor[b] | Change in R |
|---|---|---|---|---|---|
| | Treatment Completers[a] | | | | |
| 1 | Prescription abuse | 5.79 | .023 | .408 | .167 |
| | In-patients[c] | | | | |
| 1 | Prescription abuse | 5.27 | .027 | .341 | .116 |
| | Ethnicity[d] | | | | |
| 1 | Suicidal ideation or attempts | 12.24 | .001 | -.169 | .029 |
| 2 | Treatment completion | 10.57 | .001 | .166 | .024 |
| 3 | Cocaine abuse | 12.17 | .001 | .125 | .027 |
| 4 | Solvent abuse | 6.12 | .014 | -.118 | .013 |
| 5 | Survival of physical or sexual abuse | 4.17 | .014 | -.097 | .009 |

[a]Dependent variable is coded "0" for out-patient and "1" for in-patient. Positive partial correlations indicate that in-patients have higher scores than out-patients.
bAt last step.
[c]Dependent variable is coded "0" for in-patient completers and "1" for in-patient drop-outs.
[d]Dependent variable is coded "0" for native and "1" for non-native.

Table 13.

Dichotomous Variables Correlated with In-patients[a]

| Variable | Completers | Drop-outs | $X^2$ | Sig. |
|---|---|---|---|---|
| Prescription drugs | 15/251 ( 6%) | 23/155 (15%) | 8.87 | .003 |
| Hard drugs | 63/251 (25%) | 61/155 (39%) | 9.18 | .002 |
| Cocaine | 38/251 (15%) | 38/155 (25%) | 5.54 | .019 |
| LSD | 21/251 ( 8%) | 27/155 (17%) | 7.53 | .006 |
| Withdrawals | 69/251 (27%) | 68/155 (44%) | 11.50 | .001 |
| Seizures | 8/251 ( 3%) | 17/155 (11%) | 10.04 | .002 |
| Hallucinations | 3/251 ( 1%) | 7/155 ( 5%) | 4.40 | .036 |
| DTs | 36/251 (14%) | 34/155 (22%) | 3.87 | .049 |
| Flashbacks | 7/251 ( 3%) | 11/155 ( 7%) | 4.20 | .040 |
| Native | 59/251 (24%) | 55/154 (38%) | 7.03 | .008 |
| Employed | 149/248 (60%) | 118/152 (78%) | 13.08 | .000 |
| Depression | 101/232 (44%) | 78/139 (56%) | 5.51 | .019 |
| Social support | 121/251 (48%) | 55/155 (35%) | 6.32 | .012 |
| Legal convictions | 139/251 (55%) | 69/155 (45%) | 4.53 | .033 |
| Robbery conviction | 24/251 (10%) | 28/155 (18%) | 6.20 | .013 |

[a]Dependent variable is coded "0" for in-patient completers and "1" for in-patient drop-outs.

Table 14.

Dichotomous Variables Correlated with Ethnicity[a]

| Variable | Native | Non-native | $X^2$ | Sig. |
|---|---|---|---|---|
| Treatment complete | 72/134 (54%) | 248/364 (68%) | 8.84 | .003 |
| Survival of physical or sexual abuse | 40/117 (34%) | 68/311 (22%) | 6.84 | .009 |
| Suicidal ideation or attempts | 45/126 (38%) | 68/326 (12%) | 10.70 | .001 |
| Solvent abuse | 6/134 ( 4%) | 3/368 ( 1%) | - | .013[b] |
| Cocaine abuse | 7/134 ( 5%) | 44/368 (12%) | 4.88 | .027 |

[a]Dependent variable is coded "0" for native and "1" for non-native. [b]Fischer-Exact test.

Table 15.

Significant Correlations Related to Age or Sex

| Variables | Two-tailed Correlation Coefficients |
|---|---|
| Age and Cocaine Use | -.2413 |
| Age and Marijuana Use | -.3017 |
| Age and Alcohol Use | .1320 |
| Age and Hashish Use | -.2544 |
| Age and LSD Use | -.1924 |
| Age and Mushroom Use | -.1203 |
| Age and Speed Use | -.0958 |
| Sex and Suicidal Ideation | .2060 |
| Sex and Survival of Physical or Sexual Abuse | .3945 |
| Sex and Alcohol Use | -.1476 |

*Note:* Significance level $P<0.01$. For Sex, Male = 1, Female = 2.

LAKEHEAD PSYCHIATRIC HOSPITAL

NURSING DEPARTMENT

# 4C ADMISSION INFORMATION

CASEBOOK #:_____

NAME:_____ DATE ADMITTED:_____

ADDRESS:_____

TELEPHONE:_____ MARITAL STATUS:_____

DATE OF BIRTH:_____ AGE:_____

SEX:_____ HAIR:_____ EYES:_____

NEXT OF KIN:_____ TELEPHONE:_____

ADDRESS:_____

REFERRED BY:_____

PLACE OF EMPLOYMENT:_____

NUMBER OF YEARS DRINKING/DRUG USE:_____

DATE OF LAST DRINK AND HOW MUCH:_____

DATE OF LAST DRUG USE AND HOW MUCH:_____

ANY PREVIOUS TREATMENT:_____

BLACKOUTS:_____ DT'S:_____ SEIZURES:_____

COURT CHARGES:_____ PENDING:_____

ON PROBATION:_____ UNTIL WHAT DATE:_____

WHAT WAS THE CHARGE:_____

PHYSICAL PROBLEMS OR CONDITIONS OR ALLERGIES:_____

_____

Rules and Regulations explained:_____

Any Problems Reading or Writing:_____

Drinking History Explained:_____

Date Discharged:_____

CC:_____ UTP:_____ AMA:_____ COMMENTS:_____

_____

FOLLOW UP:_____

FORWARDING ADDRESS:_____

DIAGNOSIS: 1)_____ 2)_____ 3)_____ 4)_____

Revised March, 1991
PH #9800-1075

Basic Background Information

In the first section, we are asking for some basic background information about you.

What is your name ?
What is your address ?

What is your phone number at home _____ ? at work _____ ?
Are you male___ or female___ ?
How old are you___ ?
What is your date of birth ?

What is your religion ?

Where were you born ?

Do you have any difficulty reading or writing English ?

Do you have a family doctor ?
If you do, what is your doctor's name ?

Are you: single___
married___ living common law___
divorced___widowed___separated___ ?

What grade did you finish in school ?

Is there someone that we can contact in an emergency ?
What is their name ?
What is their address ?

What is their phone number ?

What is your Social Insurance Number ?
What is your new Health Number?

What is your usual kind of work ?

Are you working now ? yes___ no___
If you are working:
where are you working ?

how long have you worked there ?
does coming into treatment effect your job ?

does your employer support your coming into treatment ?

If you are not working, what is your source of income ?

Who referred you to our treatment program ?

Is this treatment mandatory for you ?

Does anyone that you are living with drink or use drugs ?
yes___ no___

Do you have any children who are not living with you ?
If yes, please provide the following information:

| Name | male or female | age | Where they are living |
|---|---|---|---|
| _____ | ____ | ___ | _____ |
| _____ | ____ | ___ | _____ |
| _____ | ____ | ___ | _____ |
| _____ | ____ | ___ | _____ |

Is your father still living ? yes___ no___
If he isn't, when did he die ?
What did he die of ?

When you were a child, did your father drink heavily, or use drugs?
yes___ no___

Is your mother still living ? yes___ no___
If she isn't, when did she die ?
What did she die of ?

When you were a child, did your mother drink heavily, or use drugs?
yes___ no___

How many brothers do you have ? ___

How many sisters do you have ? ___

Do you have any brothers or sisters who have drank heavily or used drugs ? yes___ no___
If yes, how many of your brothers drink or use drugs ___

how many of your sisters drink or use drugs ___

Has anyone in your family (parents, brothers, sisters, aunts or uncles) ever been seen by a psychiatrist, psychologist, or other mental health worker ?
If they have, what was this for ?

Alcohol use

These next few questions will deal with your use of alcohol. In the section after this one we'll ask about your drug use.

Do you use alcohol ? yes___ no___ (if "no" go to "Drug use")

If you do, what type ?

beer____ wine____ "hard liquor"____ other_____

Do you have binges, times when you drink a lot followed by times when you don't drink at all ? yes____ no____

If you do, how many binges have you had in the last 6 months ? _____

How many days did these binges usually last ? _____

Do you usually drink without binges, drinking the same amount every month at a pretty steady rate ? yes____ no____

If you do, think about your drinking during the last year. In a typical month, how many days would you have:

no drinks at all _____

1 to 3 drinks _____

4 to 6 drinks _____

7 or more drinks _____ < on these days how many drinks would you have ?

You've answered a few questions about the amount that you drink at this time in your life.

How long (how many years or months) have you drank like this ?

Do you find it takes less alcohol to get drunk ?

Has your use of alcohol ever led to your having any of the following:

"blackouts" (times when you've lost your memory without passing out) ? yes___ no___

seizures ? yes ___ no ___

"DT's" (times after heavy drinking when you've heard voices, had severe shaking, or seen things that weren't there) ? yes___ no___

When was the last time you had a drink, and how much did you drink ?

Drug use

These next few questions will deal with your use of drugs.

Do you use drugs ? yes___ no___ (if "no" go to the next section)

If you do, we should know what type or types you use. Please list below the kinds of drugs that you have used in the last 6 months - include both street drugs and prescription medications that you have abused.

For each drug that you list answer two questions. First, state how concerned you are about your use of this drug, using this scale:

1 - I'm not worried about my use of this drug
2 - I'm a little worried
3 - I'm very worried

The second question is about how you used the drug, whether you smoked it, swallowed it, snorted it, injected it, etc.

| Type of Drug | Concern Level | Way Drug Used |
|---|---|---|
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |

Do you usually buy your own supply ? yes___ no___

How old were you when you first used drugs ?

How often do you drink and use drugs at the same time ?
never___ sometimes___ most of the time___ always___

Has your use of drugs ever led to your having any of the following:

"blackouts" (times when you've lost your memory without passing out) ? yes___ no___

"Flashbacks" ? yes___ no___

withdrawal symptoms (feeling sick) after you stopped using drugs yes___ no___

When was the last time you used drugs, and how much did you use ?

Previous treatments

Have you ever received treatment for your drug or alcohol problem before ? yes___ no___

If you have, where and when was this?

| Where | When | Did you complete ? |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Have you ever been involved in AA or NA ? yes___ no___

If yes, describe this involvement

When you were involved in AA or NA, what was your longest period without drugs or alcohol ?

Have you ever been seen by a psychiatrist, psychologist, or other mental health worker?

If you have, where and when was this ?

Have you ever attempted suicide ?

Important people

Substance abuse affects not only the person abusing, but also people around them. In this next section, there are questions about people that are important to you - people that may be affected by your addiction.

Is there anyone living with you ? yes___ no, I live alone ___

If yes, who do you live with

| Name | Relationship to You | Age |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Legal involvements

Do you currently have any court charges ? yes___ no___
If you do, what are these ?

Are any charges pending ? yes___ no___
If there are, what are these ?

Are you on Probation? yes___ no___
If you are on probation:
until what date ?
what was the charge?

What is the name and phone number of your probation officer ?

Expectations

What made you decide to come for treatment ?

What do you expect to get out of this program ?

What do you expect to contribute to this program ?

Do you have any comments, or is there any other information that you think we should know about you now ?

Ontario Ministry of Health — Lakehead Psychiatric Hospital

*(Page 1 of 4)*

# ADMISSION/REGISTRATION DATA

Surname | Given Names | Casebook No

Also known as | Phone No

Address | City/ Town | County/District | Postal Code

Sex ☐ Male ☐ Female | Age | Date of Birth Yr. Mo. Day | Religion | Birthplace

Preferred language

Does Patient have a history of Military Service? ☐ Unknown ☐ Yes ☐ No

Family Physician

Notify? ☐ Yes ☐ No ☐ N/A

**Marital Status**
1 ☐ Single
2 ☐ Married
3 ☐ Widowed
4 ☐ Divorced
5 ☐ Separated
6 ☐ Common law
7 ☐ Unknown

**Citizenship**
1 ☐ Native Canadian - Treaty
2 ☐ Native Canadian - Non Treaty
3 ☐ Canadian Other Than Native
4 ☐ Landed Immigrant
5 ☐ Other
6 ☐ Unknown

**Education**
1 ☐ None
2 ☐ Elementary
3 ☐ Secondary - Some
4 ☐ Secondary - Complete
5 ☐ Non University - Some
6 ☐ Non University - Complete
7 ☐ University - Some
8 ☐ University - Complete
9 ☐ Unknown

Legal next of kin ☐ Unknown
Name | Address ☐ Same as Patients or
Relationship:
Phone No. | Notify? ☐ Yes ☐ No ☐ Unknown

Correspondent ☐ Unknown
Name | Address ☐ Same as Patients or
Phone No. | Notify? ☐ Yes ☐ No

Social Insurance No | OHIP No. | Name & Initial on Insurance Card

**Other Source of Payment for Care**
1 ☐ Other Insurance
2 ☐ Dept. of Veterans Affairs
3 ☐ W.C.B.
4 ☐ Federal Government
5 ☐ Other
6 ☐ None known

**Financial Support**
1 ☐ No Income
2 ☐ Welfare
3 ☐ Family Benefits
4 ☐ Spouse/Parents Support
5 ☐ Pension - specify:
6 ☐ Unemployment
7 ☐ Savings/Inheritance
8 ☐ Employment
9 ☐ Other
10 ☐ Unknown

**Employment Status**
1 ☐ Employed Self Employed
2 ☐ Not Currently Employed
3 ☐ Retired
4 ☐ Unknown

**Patient Came With**
1 ☐ Ambulance
2 ☐ Police
3 ☐ Mental Health Professional(s)
4 ☐ Relatives, Family, Friends, etc
5 ☐ No one, came alone
6 ☐ Other

Are Patient's Affairs Managed by Public Trustee?
1 ☐ Yes 2 ☐ No ☐ Unknown
If yes, indicate whether
☐ Public Trustee Elected
or ☐ Public Trustee Court Appointed
or ☐ Certificate of Incompetance
PT No.

Are Patient's Affairs Administered by a Private Trustee?
1 ☐ Yes 2 ☐ No ☐ Unknown
If yes, indicate whether
☐ Committeeship
or ☐ Power of Attorney

**Living With Whom**
1 ☐ Alone
2 ☐ Spouse
3 ☐ Parents
4 ☐ Friends
5 ☐ Other Relatives
6 ☐ Other - specify
7 ☐ Unknown

**Type of Housing**
1 ☐ Private House or Apt.
2 ☐ Private Room
3 ☐ Private Boarding House
4 ☐ Domiciliary Hostel
5 ☐ Approved Home
6 ☐ HSC - Residential
7 ☐ HSC - Intermediate
8 ☐ HSC - Nursing
9 ☐ Co-op Home or Apt.
10 ☐ Group Home
11 ☐ Nursing Home
12 ☐ Home for the Aged
13 ☐ Hostel
14 ☐ COMSOC Facility
15 ☐ Correctional Institute
16 ☐ Parole Facilities
17 ☐ No Fixed Abode
18 ☐ Unknown
19 ☐ Other (incl. other hospital)

**Length of Time in Present Housing Situation**
1 ☐ Less than One Week
2 ☐ More than One Week
3 ☐ More than Six Months
4 ☐ More than One Year
5 ☐ Unknown

**Referral Source**
10 ☐ Self 20 ☐ Family
30 ☐ Medical/Therapist - specify:
40 ☐ Forensic - specify (41-44)
50 ☐ Community Agency
Institutional - specify: (51-57)
Non-Institutional - specify:
60 ☐ Psychiatric In-Patient Facility - specify:
70 ☐ Psychiatric Out-Patient Facility - specify:
80 ☐ Other - specify:

**Legal Status at Admission:**
1.0 ☐ Voluntary
1.1 ☐ Informal
2.0 ☐ Involuntary - specify form: (2.1-2.3)
3.0 ☐ Lieutenant Governor's Action (3.1, 3.2)
4.0 Remand for Examination
4.1 ☐ Criminal Code - 30 days
4.2 ☐ Criminal Code - 60 days
4.3 ☐ Mental Health Act - 30 days
4.4 ☐ Mental Health Act - 60 days
5.0 ☐ Other - specify:

**Type of Admission/Registration**
1 ☐ Transfer in
Facility Name:
Admission Date:
For Outpatients Only:
7 ☐ First Contact
8 ☐ Re-Reg - This Hosp
9 ☐ After Disch Follow-up
2 ☐ First Admission to this Hospital
3 ☐ Re-Admission to this Hospital
Previous Discharge Date:
4 ☐ Previous Psychiatric Admission
Facility Name:
Discharge Date:
5 ☐ Out-Patient Registration
6 ☐ Assessed but not Admitted

Service/Unit:
Program/Ward:
Other Programs?
Attending Physician/Psychiatrist (assigned)
Date & Time of Admission/Registration Yr. Mo. Day Time
Other Clinician (assigned)

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Ontario Ministry of Health

Lakehead Psychiatric Hospital

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ADMISSION/REGISTRATION DATA

| Surname | Given Names | Casebook No |
|---|---|---|
| | | |

Provisional Diagnosis (ICD-9)

| Provisional Diagnosis (ICD-9) | Admitted/Registered by |
|---|---|
| | |

Alert: This section is to be used by clinicians to alert other clinicians to situations that are current or potential major considerations in treatment. (See Coding Manual for instructions).

BEHAVIORAL

- 1.1 ☐ History of Self-Harm
- 1.2 ☐ History of Violence to Others
- 1.3 ☐ History of use of Weapons
- 1.4 ☐ History of Arson
- 1.5 ☐ Frequent Police Involvement
- 1.6 ☐ Refer back to General Hospital if Readmission Needed
- 1.7 ☐ Consultation Required before Admission Decision
- 1.8 ☐ History of Child Abuse
- 1.9 ☐ Burial Arrangements

MEDICAL

- ☐ Alcohol/Drug Abuse
  - ☐ prescription ☐ street drugs
- ☐ Sensitivity - specify:
- ☐ Non-compliance with Prescribed Medications
- ☐ Allergies - specify which drugs, food, insects
  - ☐ Tenative
  - ☐ Confirmed
- ☐ Medical Complications - specify
- ☐ Special Diets - specify

**Clinical Information —** This section should include presenting problem, relevant past history, mental status, provisional diagnosis, treatment/management plan.

**Reason for Referral**

**Other Sources of Information**

Name _____ Relationship _____

Address and Phone Number _____

**History of Present Illness** (Problems, Symptoms, Duration)

**Legal Involvement**

**Social Problems**

**Alcohol/Drug Abuse**

**Past Psychiatric History**

**Family Psychiatric History**

**Medical/Surgical History**

**Relevent Background History**

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Ministry of Health
Ontario

Lakehead Psychiatric Hospital

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ADMISSION/REGISTRATION DATA

| Surname | Given Names | Casebook No |
|---|---|---|
| | | |

## Mental Status Examination

**Appearance, Behaviour, Psychomotor**

**Affect/Mood** (Blunt, Depressed, Inappropriate, Labile, Elated)

**Suicidal Ideation**

**Neurotic Symptoms** (Anxiety, Phobia, Obsessive - Compulsive, Hypochondrical)

**Thought Form** (Negative, Poverty of Speech Content, Positive, Illogicality, Incoherence, Flight, Loosening of Associations, Circumstantiality, Blocking)

**Thought Content** (Delusions, Passivity, Reference, Inappropriateness, Hallucination, Illusion, Abstraction)

**Cognitive Function** (Orientation, Attention, Concentration, Memory - recent and remote, Intelligence)

**Judgement**

**Insight**

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